



**CALL OF SPECIAL MEETING
OF THE BEAUMONT CHERRY VALLEY WATER DISTRICT
BOARD OF DIRECTORS**

The undersigned, Dr. Blair Ball, President of the Beaumont Cherry Valley Water District, hereby calls a Special Meeting of the Board of Directors of said District to be held **Wednesday, April 28, 2010 at 7:00 p.m.** at the Beaumont Cherry Valley Water District's Administrative Offices located at 560 Magnolia Avenue, Beaumont, California 92223.

Dated: April 22, 2010

Dr. Blair Ball

Dr. Blair Ball, President of the
Board of Directors of the
Beaumont Cherry Water District



**NOTICE OF SPECIAL MEETING
OF THE BEAUMONT CHERRY VALLEY WATER DISTRICT
BOARD OF DIRECTORS**

To the Directors of the Beaumont Cherry Valley Water District:

Notice is hereby given that a Special Meeting of the Board of Directors of said District to be held **Wednesday, April 28, 2010 at 7:00 p.m.** at the Beaumont Cherry Valley Water District's Administrative Offices located at 560 Magnolia Avenue, Beaumont, California 92223.

The agenda for said meeting is attached.

Dated: April 22, 2010

Dr. Blair Ball

Dr. Blair Ball, President of the
Board of Directors of the
Beaumont Cherry Valley Water District



**BEAUMONT CHERRY VALLEY WATER DISTRICT
BOARD OF DIRECTORS
SPECIAL BOARD MEETING AGENDA
Wednesday, April 28, 2010 at 7:00 PM
560 Magnolia Avenue, Beaumont, CA 92223**

CALL TO ORDER, PRESIDENT BALL

PLEDGE OF ALLEGIANCE, DIRECTORS ROSS

INVOCATION, VICE PRESIDENT PARKS

ROLL CALL, BLANCA MARIN

PUBLIC INPUT

PUBLIC COMMENT: Anyone wishing to address the Board of Directors on any matter not on the agenda of this meeting may do so now. Anyone wishing to speak on an item on the agenda may do so at the time the Board considers that item. All persons wishing to speak must fill out a "Request to Speak" form and give it to the Secretary at the beginning of the meeting. The forms are available on the table at the back of the room. There is a three (3) minute limit on public comments. Sharing or passing time to another speaker is not permitted. Please do not repeat what was said by a previous speaker except to note agreement with that speaker. Thank you for your cooperation.

ACTION ITEMS

1. ADOPTION OF THE AGENDA

HALLIWILL	M	S	A	N
PARKS	M	S	A	N
ROSS	M	S	A	N
WOLL	M	S	A	N
BALL	M	S	A	N

2. REVIEW OF DRAFT 2010 WATER RATE STUDY**

HALLIWILL	M	S	A	N
PARKS	M	S	A	N
ROSS	M	S	A	N
WOLL	M	S	A	N
BALL	M	S	A	N

3. CLOSED SESSION- CONFERENCE WITH LEGAL COUNSEL

- A. A Closed Session will be held pursuant to subdivision (a) of Government Code Section 54956.9 to confer with legal counsel on a pending litigation matter (Daniel Slawson and Arlene Slawson vs. Beaumont Cherry Valley Water District-Riverside County Superior Court, Case No. RIC 533149.**
- B. A Closed Session will also be held pursuant to Government Code Section 54957.6 to confer with the District's Labor Negotiators (Directors Stella Parks & Ken Ross and Interim General Manager, Anthony Lara) regarding the Memorandum of Understanding with the District's represented employees.**

4. OPEN SESSION - REPORT ON CLOSED SESSION (General Counsel)

5. ADJOURNMENT

HALLIWILL	M	S	A	N
PARKS	M	S	A	N
ROSS	M	S	A	N
WOLL	M	S	A	N
BALL	M	S	A	N

** Information included in the agenda packet

Assistance for the Disabled: If you are disabled in any way and need accommodation to participate in the meeting, please call Blanca Marin, at (951) 845-9581 Ext. 23 for assistance so the necessary arrangements can be made.

The agenda material for this meeting is available to the public at the District's Administrative Office which is located at 560 Magnolia Avenue, Beaumont, CA 92223. If any additional material related to an open session agenda item is distributed to all or a majority of the board of directors after this agenda is posted, such material will be made available for immediate inspection at the same location.

Beaumont-Cherry Valley Water District
California



Draft Report
Water Rate Study
Full CIP Bond Issue Option

April 22, 2010



27368 Via Industria, Suite 110
Temecula, CA 92590
T: 951.587.3500
F: 951.587.3510

April 22, 2010

Mr. Tony Lara
General Manager
Beaumont-Cherry Valley Water District
560 Magnolia Avenue
Beaumont, CA 92223

Dear Mr. Lara,

Willdan Financial Services (Willdan) is pleased to present this report on the water rate study conducted for Beaumont-Cherry Valley Water District (District).

This report was undertaken as the District is facing several challenges to continuing its high-quality operations. The focus of this study is to ensure that the utility has sufficient revenues to meet its operational, capital and debt service obligations and that rates are set proportionate to the costs of providing utility service to each customer class. Our report outlines the approach, methodology, findings, and conclusions of this study.

This report has been prepared using generally accepted rate setting techniques. The District's utility accounting, budgeting, and billing records were the primary sources for the data contained within the report. Furthermore, Willdan has worked closely with District staff over the course of this project. The conclusions contained within this report provide the District with a set of recommendations to provide stable technically defensible funding for continued high-quality operations.

It was a pleasure working with you, and we also wish to express our thanks to other staff members at the District, for the support and cooperation extended throughout the study.

Sincerely,

Willdan Financial Services

Gregg Tobler
Senior Project Analyst

Table of Contents

Table of Contents	iii
List of Figures.....	iv
Executive Summary	5
Project Background	7
Key Financial Plan Objectives.....	7
Overview of the Rate Study Process	8
Organization of the Report	9
Rate Setting Principles	10
Established Principles & Guidelines	10
Revenue Requirements.....	11
Financial Planning	11
Rate Design	12
Rate Setting Principles Summary	12
Water Rate Analysis	13
Revenue Requirements Analysis.....	14
Cost of Service Analysis.....	18
Rate Design Analysis	20

List of Figures

Table of Contents	iii
List of Figures.....	iv
Executive Summary	5
Figure E-1: Projection Using Current Water Rates.....	5
Figure E-2: Projection Using Proposed Water Rates.....	6
Project Background	7
Figure 1-1: Comprehensive Rate Study Interrelated Analysis	9
Rate Setting Principles	10
Figure 2-1: Overview of the “Cash Basis” Design.....	11
Water Rate Analysis	13
Figure 3-1: Revenue and Expenditure Projections – Existing Rates.....	13
Figure 3-2: Accounts and Consumption	14
Figure 3-3: Projected Debt Service	15
Figure 3-4: Water Capital Projects	16
Figure 3-5: Revenue Requirements.....	17
Figure 3-6: Revenue and Expenditure Projections – Proposed Rates.....	18
Figure 3-7: Classification of Water Expenses by Function	19
Figure 3-8: Existing Rate Structure for all Customer Classes	21
Figure 3-9: Existing SCE Power Charge and State Project Water Costs Charge	21
Figure 3-10: Existing Bi-Monthly Fixed Meter Charge	22
Figure 3-11: Existing Private Fire Service Charges	22
Figure 3-12: Domestic Tier Changes (State Project Water Costs & Power Costs Included)	23
Figure 3-13: Multi-Family Residential Tier Changes (State Project Water Costs & Power Costs Included)	23
.....	23
Figure 3-14: Domestic Tier Changes (State Project Water Costs & Power Costs Not Included)	24
Figure 3-15: Multi-Family Residential Bi-Monthly Tier Changes (State Project Water Costs & Power	24
Costs Not Included)	24
Figure 3-16: Proposed State Project Water and SCE Power Charges	24
Figure 3-17: Bi-Monthly Private Fire Service Charges.....	25
Figure 3-18: Bi-Monthly Fixed Meter Charges (State Project Water Costs & Power Costs Included)....	25
Figure 3-19: Bi-Monthly Fixed Meter Charges(State Project Water Costs & Power Costs Not Included)	26
.....	26
Figure 3-20: Proposed Commodity Charges (State Project Water Costs & Power Costs Included)	26
Figure 3-21: Proposed Commodity Charges (State Project Water Costs & Power Costs Not Included)	27
Figure 3-22: Bi-Monthly Comparative Water Bills - Domestic	28

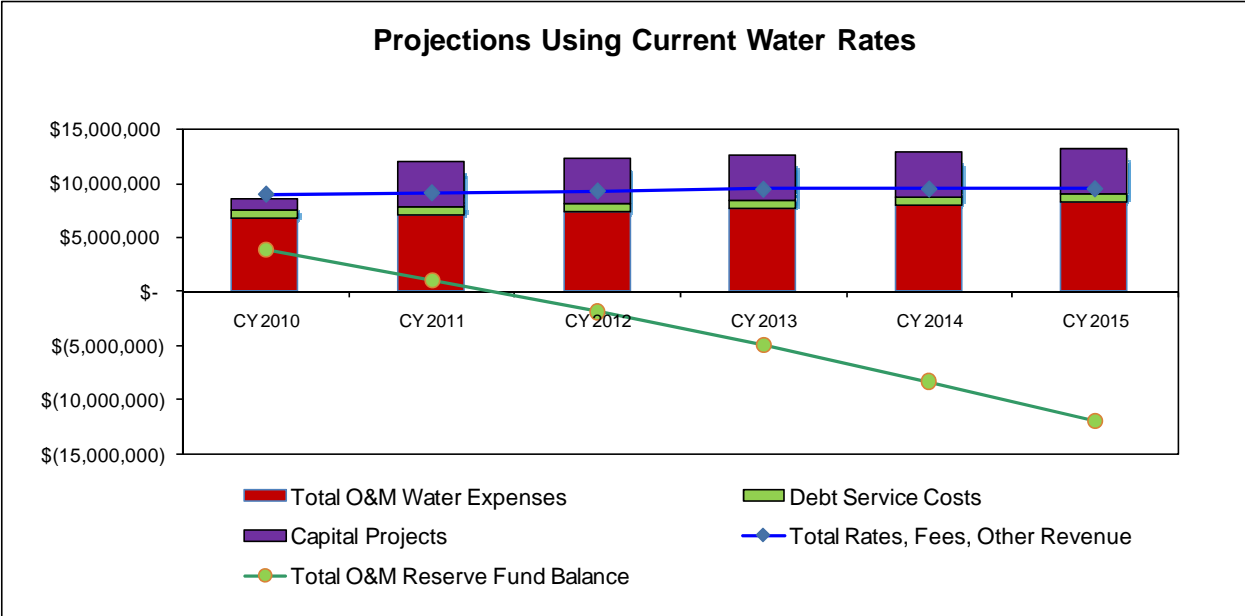
Executive Summary

The District desires rates that fully fund operations, maintenance, and present and future capital costs for new wells, infrastructure rehabilitation, and enhancements. The District is facing several challenges to continuing its water utility operations, including inadequate annual water rate revenues to keep pace with increasing operational, maintenance and major capital costs; and the need to meet water conservation objectives while maintaining a self-funding water utility enterprise fund.

The District retained Willdan Financial Services (Willdan) to prepare a rate study for the water utility to ensure the utility has sufficient revenues to meet their operational, capital and debt service obligations and that rates are set proportionate to the costs of providing utility service to each customer class in compliance with Proposition 218. Therefore, the purpose of the proposed rate study is to provide recommendations on changes to the current utility rate structure to meet these challenges. As part of this rate study, Willdan facilitated dialogue with District staff during conference calls and meetings. During these discussions, the District made recommendations to incorporate into the study where appropriate. This report documents the findings, analyses and recommendations of the comprehensive rate study effort.

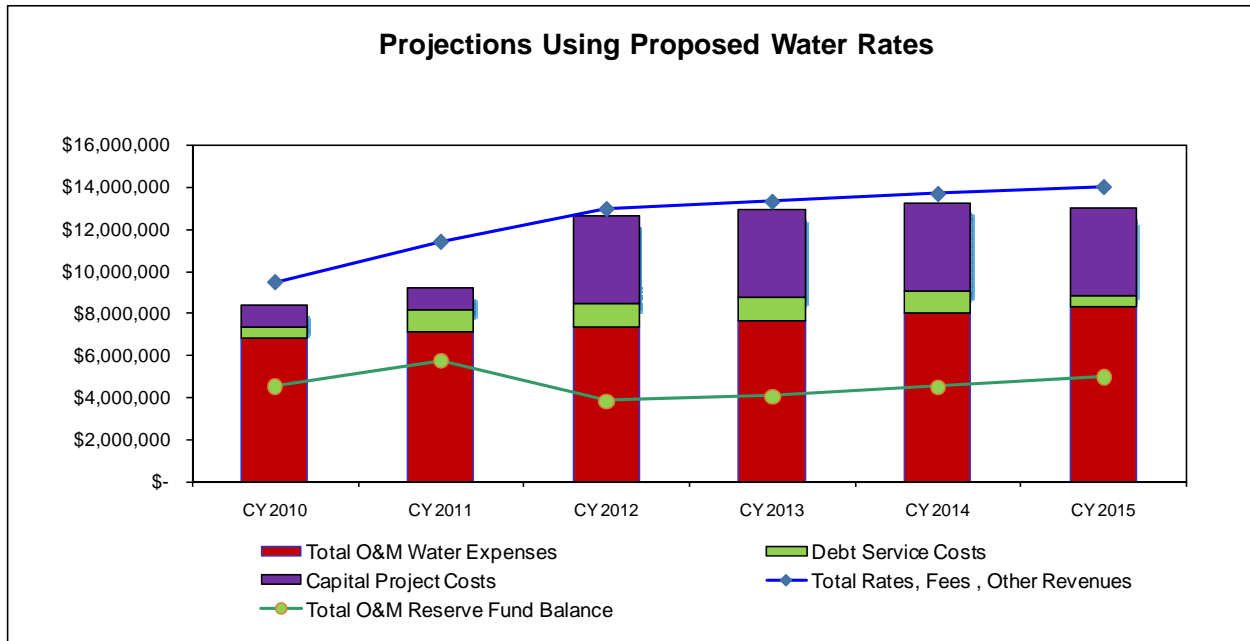
The graph (Figure E-1) below demonstrates the current and projected financial conditions of the water system absent a comprehensive rate restructuring and assuming no rate increases over the next 5 years. As the figure illustrates, holding rate structures and rates constant will result in depleted reserve funds, reduced quality of operations or services, and deferred capital projects that are urgently needed due to aging infrastructure.

Figure E-1: Projection Using Current Water Rates



The graph (Figure E-2) below demonstrates the projected financial condition of the water system assuming adoption of a comprehensive rate restructuring and recommended rate increases over the next 5 years. As the figures illustrate, the proposed rate structure and rate increases will enable the District to continue its operations, establish prudent reserve fund levels, and fund capital projects that are urgently needed through a bond financing.

Figure E-2: Projection Using Proposed Water Rates



The following report provides detail regarding the supporting rate analysis and recommendations.

Project Background

Beaumont-Cherry Valley Water District owns and operates a water system for residents and businesses within Beaumont, Cherry Valley and parts of southeastern Calimesa. As of Calendar Year 2010, the water system provides service to approximately 15,000 residential and non-residential potable water customers. The District operates the water system as a self-supporting enterprise.

The District's responsibilities include water storage and delivery, water resource management, water policy development, and water conservation programs. The District maintains 10 active wells with a system production capacity of 34 million gallons per day. The District receives the majority of its water from groundwater supplies. The remainder of the water the District receives comes from State Water Purchase Program.

The District is currently implementing a major capital improvement program which includes new potable wells, well rehabilitation and pipeline, non-potable wells, completion of the recharge facility, a recycled water connection, reservoir painting and rehabilitation, and distribution & transmission pipeline replacement.

The District is facing several challenges to continuing its water utility operations. Utility revenues are not keeping pace with increasing operational and capital costs. In addition, customer account growth has slowed to a 2.5% annual rate and utility infrastructure is aging and must be replaced or repaired.

Due to the uniform water rate schedule, recent market conditions, and conservation objectives implemented by water purveyors, the current model does not accurately predict the revenue stream required for services provided. The District desires rates that fully fund operations, maintenance, present and future capital costs, and accounts for water conservation goals.

Key Financial Plan Objectives

Several objectives were identified during the study to guide decisions regarding the proposed financial plans and rate structures. The major objectives of the study were:

- Utility rates and fees should generate sufficient revenues to meet operating costs, capital program requirements, debt service obligations, and maintain adequate reserves consistent with sound financial management practices
- Utility rates should be set proportionate to the cost of providing utility service to each customer class to promote fairness and equity and compliance with Proposition 218
- A financial plan that shifts a majority of future capital funding to a debt financing to mitigate the impact on rates that the District's customers pay.
- A financial plan that minimizes the need to continually update the water rate structure
- Conservation objectives of the District to encourage the efficient use of water

- Utility rate and fee structures should be supported by a financial model that is easy to update should costs and assumptions change in the future beyond what was projected at the time of this report

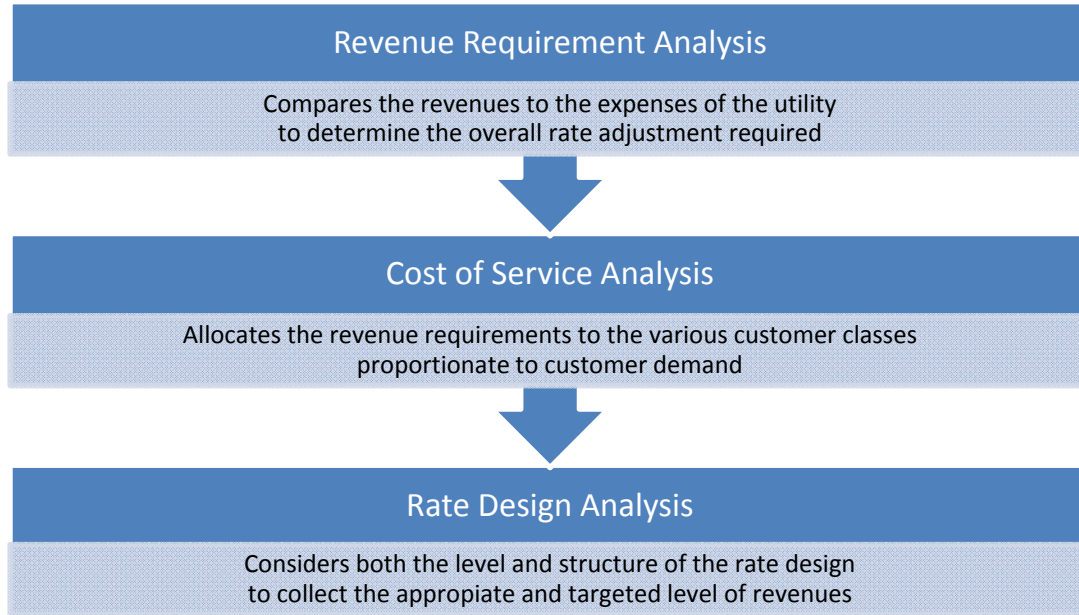
In reviewing the above objectives, it should be noted that the District has limited control over external forces such as growth, consumer behavior, the cost of purchasing water, and system usage. Recognizing these factors, we believe that the recommendations in this study provide a fair, reasonable, and balanced set of proposed rates and fees for the District that, to the extent possible, meets these key objectives.

Overview of the Rate Study Process

The scope of this study included the development of cost-based water user charges through a comprehensive cost of service and rate design analysis. Utility rates must be set at a level where a utility's operating and capital expenses are met with the revenues received from customers. This is a significant point, as failure to achieve this level may lead to insufficient funds being available to appropriately maintain the system. A comprehensive rate study typically consists of following three interrelated analyses (Figure 1-1 provides an overview of these processes).

- **Financial Planning/Revenue Requirement Analysis:** Create a ten-year plan to support an orderly, efficient program of on-going maintenance and operating costs, capital improvement and replacement activities, and retirement of outstanding debt. In addition, the long-term plan should fund and maintain reserve balances to adequate levels based on industry standards and District fiscal policies.
- **Cost of Service Analysis:** Identifies and apportions annual revenue requirements to the different customer classes based on their demand on each utility system.
- **Rate Design:** Develops a fixed/variable schedule of rates for each customer class to proportionately recover the costs attributable to them. This is also, where other policy objectives can be achieved, such as discouraging wasteful water use. The policy objectives are balanced with the cost of service objectives to maintain the delicate balance between customer equity, financial stability and resource conservation goals.

Figure 1-1: Comprehensive Rate Study Interrelated Analysis



Organization of the Report

This report is organized to provide an overview of utility rate setting principles, then a separate detailed review of the rate design process. The following sections comprise the water rate study report:

- Rate Setting Principles
- Water Rate Analysis

Rate Setting Principles

The primary objective of conducting a comprehensive rate study is to determine the adequacy of the existing rates (pricing and structure) and provide the basis for any necessary adjustments to meet the District's operating and capital needs as well as policy objectives, such as water conservation. The District desires rate structures that fully fund operations, maintenance, and present and future capital costs (plant expansions, distribution systems, and collection system rehabilitation, enhancements, or expansion). Furthermore, the District desired to maintain or possibly enhance its current conservation-based rate structure. A tiered rate structure encourages conservation by allocating each customer a consumption allotment based on average usage for which they are charged a base rate per hundred cubic foot (ccf). If an account's consumption exceeds its allotment, then the customer is charged an increased rate (block 2) per ccf for the consumption that falls above the allotment.

Established Principles & Guidelines

Over the past years, many generally accepted principles or guidelines have been established to assist in developing utility rates. The purpose of this section of the report is to provide a general background of the methodology and guidelines used for setting cost based utility rates. This will provide the reader with a higher-level understanding of the general process detailed later in this report.

As a practical matter, there should be a general set of principles to develop rates. The American Water Works Association (AWWA) establishes these principles in the M1 Manual – *Principles of Water Rates, Fees and Charges*. These guiding principles help to ensure there is a consistent global approach that is employed by all utilities in the development of their rates (water and water-related utilities including sewer and reclaimed water).

Below is a summary listing the established guidelines, which public utilities should consider when setting their rates. These closely reflect the District's specified objectives.

- Rates should be cost-based and equitable, and set at a level such that they provide revenue sufficiency.
- Rates and process of allocating costs should conform to generally accepted rate setting techniques.
- Rates should provide reliable, stable and adequate revenue to meets the utility's financial, operation, and regulatory requirements.
- Rate levels should be stable from year to year (limit "rate shocks").
- Rates should be easy to understand and administer.

These guidelines, along with the District's objectives, have been utilized within this study to help develop utility rates that are cost-based and equitable.

Revenue Requirements

The method used by most public utilities to establish their revenue requirements is called the “cash basis” approach of setting rates. As the name implies, a public utility combines its cash expenditures over a period of time to determine their required revenues from user rates and other forms of income. The figure below presents the “cash basis” methodology.

Figure 2-1: Overview of the “Cash Basis” Design

+ Operation and Maintenance Expenses
+ Taxes/Transfers
+ Capital Additions Financed with Rate Revenue
+ Debt Service (Principal and Interest)
= Total Revenue Requirements

To ensure existing ratepayers are not paying for growth-related capital projects, Willdan reviewed existing, approved/pending, and proposed Capital Improvement Projects (CIPs) with District staff to allocate projects between new (growth) and existing customers (operations and maintenance or “O&M”). Additionally, capital replacement expense is sometimes included to stabilize annual required revenue requirements by spreading the replacement costs of a depreciated asset over the expected life of the asset or through the term of bond issue, when municipal bond financing is used.

Based on the revenue requirement analysis, the utility can determine the overall level of rate adjustment needed in order for the utility to meet its overall expenditure needs.

Financial Planning

In the development of the revenue requirements, many assumptions are utilized to project future expenditures, customer and consumption growth, and necessary revenue adjustments. The District’s budget documents are used as the initial starting point; however, assumptions play a necessary role in projecting future required revenue.

Conservative growth assumptions and prudent financial planning are fundamental to ensuring adequate rate revenue to promote financial stability. The financial model developed appropriately considers the District’s existing debt service coverage ratios and operating reserve balances. In addition, as part of the financial planning, municipal bond financing is incorporated into the model to fund repair and replacement cost of depreciated infrastructure and assets. This enables the District to mitigate future rate increases as money for repair and replacement is amortized over a bond term of 20 to 30 years. As debt is redeemed, new bond issues may be utilized to fund additional capital improvements required due to the aging infrastructure.

Rate Design

The final element, the rate design process, applies the results from the revenue requirements to develop rates that achieve the general guidelines and objectives of the District. These objectives may include consideration of cost-based rates, but may also consider items such as ability to pay, continuity of past rate philosophy, conservation, encouragement of economic development, ease of administration, and legal requirements. While cost-based rates are an important objective, all objectives should be balanced appropriately.

While the general description of the utility rate setting process discussed in this section of the report is simplified and condensed, it does address the underlying fundamentals. One of the key principles for a comprehensive rate study is found in economic theory, which suggests the price of a commodity must roughly equal its cost or value if equity among customers is to be maintained – i.e. cost-based. For example, capacity-related costs are usually incurred by a water utility to meet peak use requirements. Consequently, the customers causing peak demands should properly pay for the demand-related facilities in proportion to their contribution to maximum demands. Through refinement of costing and pricing techniques, consumers of a product are given a more accurate price point of what the commodity costs to produce and deliver.

The above fundamentals have considerable foundation in economic literature. They also serve as primary guidelines for Proposition 218 compliance and rate design by most utility regulators and administrative agencies. This “price-equals-cost” theory provides the basis for much of the subsequent analysis and comment. This theory is particularly important as the proposed rate structure has been modified to encourage conservation while maintaining this economic principle.

Rate Setting Principles Summary

This section of the report provides a brief introduction to the general principles, techniques, and economic theory used to set utility rates. These principles, techniques, and economic theory were the starting point for this rate study and the groundwork used to meet the District’s key objectives in analyzing and adjusting their utility rates. When setting utility rates in California we are required to follow the principles of Proposition 218. Below is a brief discussion of Prop 218.

In *Bighorn-Desert View Water Agency v. Verjil*, the California Supreme Court held water agency’s rates were subject to repeal by initiative pursuant to Section 3 of Article XIIC of the California Constitution. Because of the Bighorn decision, water rates in California are now considered property-related fees, therefore the substantive and procedural requirements of California Constitution Articles XIIC and XIID (Proposition 218) apply to water rate setting. Section 6 of Article XIID states:

The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.

This utility rate study was performed to allocate the costs of providing service to users in order to ensure that rates are equitable and not unduly discriminatory, thereby satisfying the Proposition 218 requirements. The total cost of serving each customer class is determined by distributing each of the utility cost components among the user classes based upon the respective service requirements of each customer

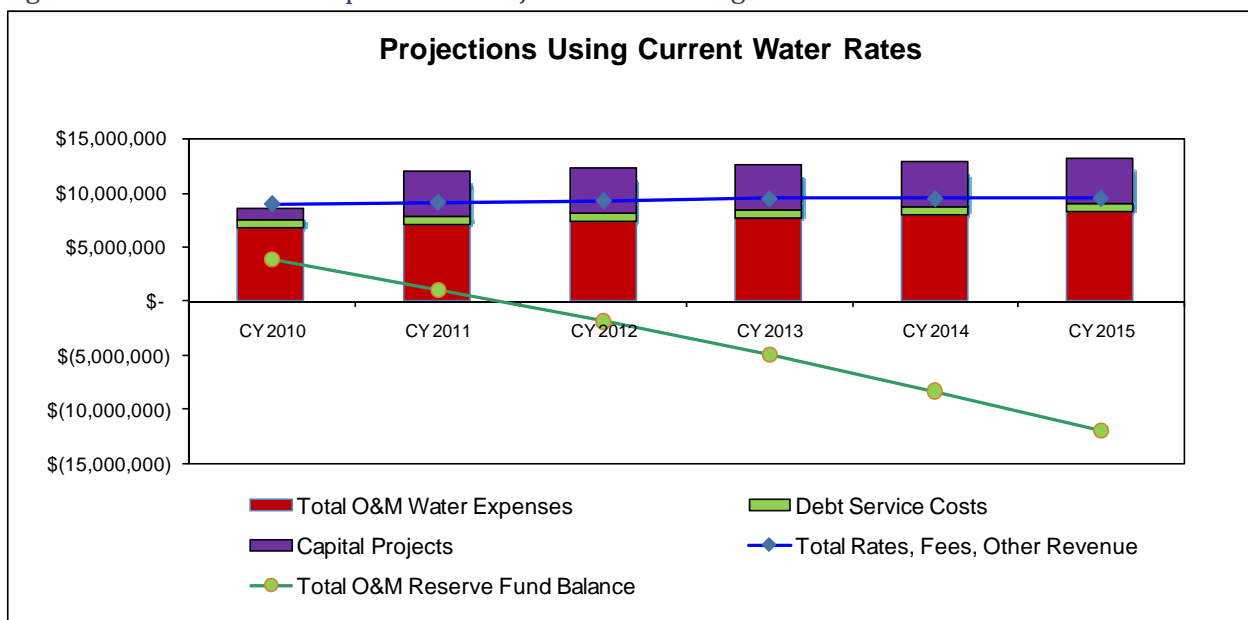
class. Therefore, a true cost of service rate study enables a water utility to adopt rates based on the true costs to each user class. The purposes of this water utility cost of service study include:

- ◆ Proportional allocation of the costs of service to users.
- ◆ Derivation of unit costs to support the development of water rates.

Water Rate Analysis

The District is facing several challenges to continuing its high-quality operations. Utility revenues are not keeping pace with increasing operational and capital costs. In addition, customer account growth has slowed to a 2.5% rate and utility infrastructure is aging and must be replaced or repaired soon. Considering the above variables, Figure 3-1 projects the adequacy of existing rate revenue to support ongoing operations and maintenance.

Figure 3-1: Revenue and Expenditure Projections – Existing Rates



As the above figure indicates, revenue increases are necessary to operate and maintain the water system. This will be evident as details of the process, data, and methodology utilized in the rate study are presented in this section of the report. Summary figures, outlining much of the analysis are included in this section of the report as well.

Customer Statistics

During the calendar Year 2009, the District provided water service to an estimated 15,000 customers, distributing roughly 5.27 million hundred cubic feet (~13,700 acre feet) of potable water. Figure 3-2 shows the District's projected water usage and number of accounts by customer class.

Figure 3-2: Accounts and Consumption

Description	Projected Water Consumption (ccf)					
	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic	3,524,727	3,612,846	3,703,167	3,795,746	3,890,640	3,987,906
Multiple Family	157,141	161,069	165,096	169,223	173,454	177,790
Commercial/Fire Service	424,669	435,285	446,168	457,322	468,755	480,474
Multiple Commercial	39,268	40,249	41,256	42,287	43,344	44,428
Landscape	980,886	1,005,408	1,030,543	1,056,307	1,082,715	1,109,783
Agriculture	54,957	56,331	57,740	59,183	60,663	62,179
Construction Water	<u>90,506</u>	<u>92,769</u>	<u>95,088</u>	<u>97,466</u>	<u>99,902</u>	<u>102,400</u>
Total Water Utility Consumption	5,272,155	5,403,959	5,539,057	5,677,534	5,819,472	5,964,959
	Percent of Total					
Domestic	66.9%	66.9%	66.9%	66.9%	66.9%	66.9%
Multiple Family	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Commercial/Fire Service	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%
Multiple Commercial	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
Landscape	18.6%	18.6%	18.6%	18.6%	18.6%	18.6%
Agriculture	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Construction Water	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>
Total Water Utility Consumption	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sources: Beaumont-Cherry Valley Water District.

A projection of customers, usage, and production requirements is necessary in the evaluation of the revenue requirements. This projection is critical for the determination of revenues from rates, escalation of production-related costs, and design of the rates.

Given the current economic climate and review of potential growth, Willdan in conjunction with District staff determined to use a conservative growth rate equal to 2.5%.

Revenue Requirements Analysis

Revenue from Existing Rates

The first step in developing the revenue requirements is to develop a projection of revenues from existing rates. The District expects to receive approximately \$6.1 million in water sales in Calendar Year 2010. By 2020, assuming the growth discussed above, water sales are projected to increase roughly 25% to \$7.6 million. In addition to water sales, the District has a projected average of non-operating revenues approximately equal to two hundred thousand dollars, consisting of interest income.

Projections of Operation and Maintenance Expenses

To project Operating and Maintenance (O&M) expenses over the five-year planning horizon, two escalation factors were developed. The operations cost escalator, set at 4.00%, is applied to basic expenditures that the District incurs: labor, benefits, materials, utilities, etc. The Personnel cost escalator is set at 4.0%. In order for the District to maintain a stable Operating Reserve, Emergency Reserve, Rate Stabilization Reserve and Capital Recovery Reserve: Per the District’s recommendation, the District should, depending upon the current year circumstances, have at least a one-year reserve of spendable resources equal to that year’s total operating expenses including depreciation. If total operating expenses plus depreciation expense equals \$10.0 million, then the spendable net assets reserve should be \$10.0 million.

Debt Service

The District does not currently have long-term debt. Figure 3-3 illustrates the amount of projected debt service for both the current capital projects and the major capital improvements. The District plans on paying for the current capital projects in the amount of five million by financing them via a five-year loan with a rate of 3.38%. The District plans on paying for major capital improvements in Figure 3-4 by issuing a bond at 5.50% interest, which would have annual payments of approximately \$3,154,000 for thirty years. Figure 3-3 provides a summary of the District’s water related projected debt service.

Figure 3-3: Projected Debt Service

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<u>Debt Service</u>						
Proposed Loan Payment (Current CIP)	554,969	1,090,256	1,097,977	1,094,430	1,094,870	544,042
Proposed Bond Issue (Major CIP)	-	-	3,154,000	3,154,000	3,154,000	3,154,000
Total Debt Service	\$ 554,969	\$ 1,090,256	\$ 4,251,977	\$ 4,248,430	\$ 4,248,870	\$ 3,698,042

Sources: Beaumont-Cherry Valley Water District, Willdan Financial Services.

Capital Improvement Projects

The District’s Capital Improvement Program (CIP) needs for the water utility are summarized in Figure 3-4. Individually, each project was identified by District staff as growth-related, existing needs (O&M) or a percentage of both to determine the appropriate funding mechanism (bi-monthly rates or connection fee). The capital projects are required to meet the utilities projected growth and to maintain the existing quality of the system.

Figure 3-4: Water Capital Projects

% Allocated to Existing Customers	Project Name/Description	Funding Source	Projected					Current 2010 -15
			2011	2012	2013	2014	2015	
<u>Production/Conservation</u>								
100%	Beaumont Basin New Water Well	Water Rates	3,375,000					3,375,000
100%	Singleton Basin New Well	Water Rates	1,802,000					1,802,000
100%	Bonita Vista/Cherry Valley Water Company Well Rehabilitation and Pipeline	Water Rates	1,579,000					1,579,000
100%	RR1 Well Rehabilitation and Pipeline	Water Rates	400,000					400,000
100%	Pollution Control Project	Water Rates	5,140,000					5,140,000
100%	San Timoteo Non-potable Wells and Pipeline to Recycled Water System	Water Rates	6,590,000					6,590,000
100%	Completion of the Stormwater Capture Project incl Phase 3 of the Recharge Facility	Water Rates	10,757,000					10,757,000
100%	Sundance Stormwater Recovery Project	Water Rates	2,093,000					2,093,000
100%	Noble Creek Rubber Dam Project	Water Rates	1,620,000					1,620,000
100%	Secondary Recycled Water Connection	Water Rates	7,620,000					7,620,000
100%	Highland Springs Reservoir Painting and Rehabilitation	Depreciation		177,000				177,000
100%	Distribution and Transmission Pipeline Replacement	Depreciation					3,277,000	3,277,000
100%	GIS and GPS Equipment Upgrades	Depreciation		47,000				47,000
Total Cost in CY 2010 Dollars (CIP funded by Water Rates).			\$ 40,976,000	\$ -	\$ -	\$ -	\$ -	\$ 40,976,000
Total Cost in CY 2010 Dollars (R&R Projects Funded by depreciation)				\$ 224,000	\$ -	\$ -	\$ 3,277,000	\$ 3,501,000
Total Construction cost estimates escalated annually by PPI (CIP funded by Water Rates).			\$ 44,498,587		\$ -	\$ -		\$ 44,498,587
Total Construction cost estimates escalated annually by PPI (R&R Projects Funded by depreciation)			\$ -	\$ 253,497	\$ -	\$ -	\$ 4,196,879	\$ 4,450,376

Notes:

Construction cost estimates were escalated annually by a factor of 4.21% based on the average annual increase between 2004 and 2009 in Engineering News Record Construction Cost Index.

Sources: Beaumont-Cherry Valley Water District; Engineering News Record's Construction Cost Index; Willdan Financial Services.

Summary of Revenue Requirements Analysis

The above components comprise the foundation of the revenue requirement analysis. During the discussions with the District, District staff made recommendations to assure the accuracy of financial and growth variables used in developing the revenue requirement analysis. Particular emphasis was placed on attempting to minimize rates, yet still encompass adequate funds to support the operational activities and capital projects throughout the study period.

The revenue requirements analysis figure, presented below, provides a basis for evaluating the timing and level of water revenue increases required to meet the projected required revenue for the study period. The percentages shown at the bottom of the figure show the recommended revenue adjustments.

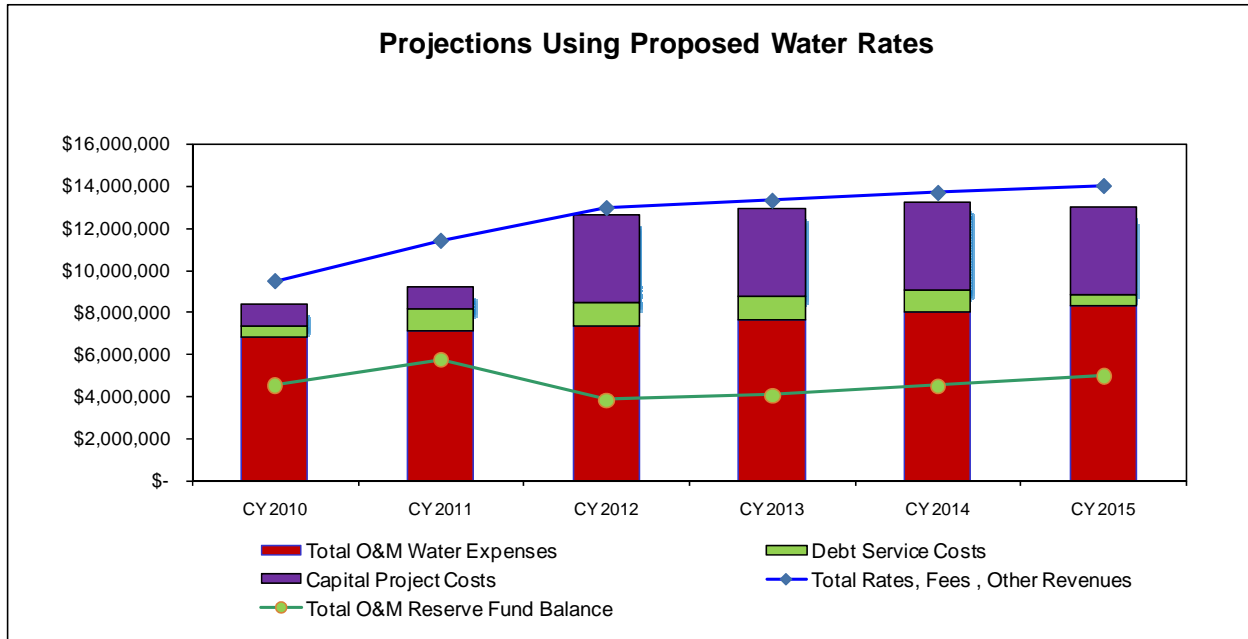
Figure 3-5: Revenue Requirements

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Operating Revenue						
1 Water Sales	\$ 6,092,979	\$ 6,245,303	\$ 6,401,436	\$ 6,561,472	\$ 6,725,509	\$ 6,893,646
2 Service Connections	2,635,501	2,701,389	2,768,923	2,838,146	2,909,100	2,981,827
3 Reimbursements (Development & Inspection)	60,000	61,500	63,038	64,613	66,229	67,884
4 Other	148,200	151,905	155,703	159,595	163,585	167,675
5 Total Operating Revenue	\$ 8,936,680	\$ 9,160,097	\$ 9,389,099	\$ 9,623,827	\$ 9,864,423	\$ 10,111,033
6 Additional Revenue Required						
7 Year	Revenue Increase	Months Effective				
8 CY 2010	15.00%	6	456,973	936,796	960,215	984,221
9 CY 2011	15.00%	12	-	1,077,315	1,104,248	1,131,854
10 CY 2012	15.00%	12	-	-	1,269,885	1,301,632
11 CY 2013	0.00%	12	-	-	-	-
12 CY 2014	0.00%	12	-	-	-	-
13 CY 2015	0.00%	12	-	-	-	-
14 CY 2016	0.00%	12	-	-	-	-
15 CY 2017	0.00%	12	-	-	-	-
16 CY 2018	0.00%	12	-	-	-	-
17 CY 2019	0.00%	12	-	-	-	-
18 Total Additional Operating Revenue	456,973	2,014,110	3,334,348	3,417,707	3,503,149	3,590,728
19 Total Required Revenue	\$ 9,393,653	\$ 11,174,207	\$ 12,723,447	\$ 13,041,534	\$ 13,367,572	\$ 13,701,761
20 Applications of Operating Funds						
21 <u>Operating Expenses</u>						
22 Source of Supply	\$ 3,071,820	\$ 3,194,693	\$ 3,322,481	\$ 3,455,380	\$ 3,593,595	\$ 3,737,339
23 Transmission & Distribution	938,700	976,248	1,015,298	1,055,910	1,098,146	1,142,072
24 Customer Service & Meter Reading	183,400	190,736	198,365	206,300	214,552	223,134
25 General Administration	1,818,300	1,891,032	1,966,673	2,045,340	2,127,154	2,212,240
26 Maintenance & General Plant	393,400	409,136	425,501	442,521	460,222	478,631
27 Engineering (In-House)	112,012	116,492	121,152	125,998	131,038	136,280
28 Professional Services	290,000	301,600	313,664	326,211	339,259	352,829
29 Total Operating Expenses	\$ 6,807,632	\$ 7,079,937	\$ 7,363,135	\$ 7,657,660	\$ 7,963,967	\$ 8,282,525
30 Net Operating Income (Loss)	\$ 2,586,021	\$ 4,094,270	\$ 5,360,313	\$ 5,383,873	\$ 5,403,605	\$ 5,419,236
31 <u>Debt Service</u>						
32 Proposed Loan Payment (Current CIP)	554,969	1,090,256	1,097,977	1,094,430	1,094,870	544,042
33 Proposed Bond Issue (Major CIP)	-	-	3,140,000	3,140,000	3,140,000	3,140,000
34 Total Debt Service	\$ 554,969	\$ 1,090,256	\$ 4,237,977	\$ 4,234,430	\$ 4,234,870	\$ 3,684,042
35 Coverage Ratio	4.84	3.97	1.32	1.33	1.35	1.55
36 Non-Operating Revenue (Expenses)						
37 Miscellaneous expense	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)
38 Investment income	98,891	230,872	234,678	263,312	306,397	301,327
39 Total Non-Operating Revenue (Expenses)	\$ 90,709	\$ 222,690	\$ 226,496	\$ 255,130	\$ 298,215	\$ 293,145
40 Capital Project Expenses						
41 CIP Program	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42 Repair & Replacement Reserve (Depreciation)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
43 Rate Funded Capital Projects	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
44 Net Income (Loss)	\$ 1,121,761	\$ 2,226,704	\$ 348,832	\$ 404,574	\$ 466,950	\$ 1,028,339
45 Operating Reserve Fund Balance Met?	-	-	-	-	-	-
46 Fund Information						
47 Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
48 Operating & Maintenance Fund						
49 Beginning Operating Fund Balance	\$ 3,386,403	\$ 3,491,476	\$ 3,491,476	\$ 3,631,135	\$ 4,035,709	\$ 3,927,436
50 Deposit (Withdrawals)	1,121,761	2,226,704	348,832	404,574	466,950	1,028,339
51 Subtotal O&M Fund Balance	\$ 4,508,163	\$ 5,718,180	\$ 3,840,308	\$ 4,035,709	\$ 4,502,659	\$ 4,955,775
52 Fund Balance Days of O&M	180	180	180	180	180	180
53 Recommended Reserve Balance	3,357,188	3,491,476	3,631,135	3,776,380	3,927,436	4,084,533
54 Excess O&M	1,016,688	2,226,704	209,173	-	575,224	871,242
55 Total O&M Fund Balance	\$ 3,491,476	\$ 3,491,476	\$ 3,631,135	\$ 4,035,709	\$ 3,927,436	\$ 4,084,533
56 Repair and Replacement Reserve Fund						
57 Beginning Operating Fund Balance	\$ -	\$ 2,016,688	\$ 5,243,392	\$ 6,199,068	\$ 7,199,068	\$ 8,774,291
58 Deposit	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
59 Withdrawals for R&R Projects	-	-	(253,497)	-	-	(4,196,879)
60 Excess O&M	1,016,688	2,226,704	209,173	-	575,224	871,242
61 Total R&R Fund Balance	\$ 2,016,688	\$ 5,243,392	\$ 6,199,068	\$ 7,199,068	\$ 8,774,291	\$ 6,448,655

Sources: Beaumont-Cherry Valley Water District, Willdan Financial Services.

Based upon the revenue requirement analysis, the District will need to adjust the rates to increase revenue by 15% for the remaining six months of calendar year 2010, followed by a 15% increase in revenues in calendar year 2011 and calendar year 2012. This approach will result in a 52% revenue increase over the next five years. Figure 3-6 expands upon the earlier figure (Figure 3-1), to illustrate the positive impact of the revenue increase on the utility's financial condition.

Figure 3-6: Revenue and Expenditure Projections – Proposed Rates



Cost of Service Analysis

The cost of service analysis is a systematic process by which revenue requirements are used to generate a classification of fair and equitable costs in proportion to the service received for each user class.

Cost Allocation by Function

The cost of service allocation conducted in this study is established on the base-extra capacity method endorsed by the AWWA. Under the base-extra capacity method, revenue requirements are allocated to the different user classes proportionate to their use on the water system. Allocations are based on average day (base) usage, maximum day (peak) usage, meters and services, billing and collection, and fire protection. Use of this methodology results in an AWWA-accepted cost distribution among customer classes and a means of calculating and designing rates to proportionately recover those costs.

Figure 3-7 classifies the major functions of the water system and allocates those related costs to the demand factors average day (base), maximum day (peak) usage, meters and services, and customer accounts.

Figure 3-7: Classification of Water Expenses by Function

Description	Total Revenue Requirement	Extra Capacity		Customer Costs		Meters & Services	Basis of Classification
		Base	Max Day	Customer Billing			
SOURCE OF SUPPLY							
Labor and Admin Source of Supply	\$ 961,809	\$ 961,809	\$ -	\$ -	\$ -	-	100% Base
Water and Utility Cost - Source of Supply	\$ 144	\$ 96	\$ 48	\$ -	\$ -	-	Avg/Max Day
Total Source of Supply	\$ 961,953	\$ 961,905	\$ 48	\$ -	\$ -	-	
MAINTENANCE & GENERAL PLANT							
Maintenance & General Plant	\$ 472,320	\$ 472,320	\$ -	\$ -	\$ -	-	100% Base
Total Maintenance & General Plant	\$ 472,320	\$ 472,320	\$ -	\$ -	\$ -	-	
TRANSMISSION & DISTRIBUTION							
Transmission & Distribution	\$ 1,127,013	\$ 375,671	\$ 375,671	\$ -	\$ 375,671	-	33% Base/Max/Meters
Total Transmission & Distribution	\$ 1,127,013	\$ 375,671	\$ 375,671	\$ -	\$ 375,671	-	
CUSTOMER COSTS							
Customer Service & Meter Reading	\$ 220,192	\$ -	\$ -	\$ 110,096	\$ 110,096	-	50% fixed
Total Customer Costs	\$ 220,192	\$ -	\$ -	\$ 110,096	\$ 110,096	-	
Total O & M (\$)	\$ 2,781,479	\$ 1,809,897	\$ 375,719	\$ 110,096	\$ 485,767	-	
Total O & M (%)	100.00%	65.07%	13.51%	3.96%	17.46%	-	
GENERAL & ADMINISTRATIVE							
General Administration	\$ 2,183,070	\$ 545,768	\$ 545,768	\$ 545,768	\$ 545,768	-	25% across
Engineering (In-House)	134,483	33,621	33,621	33,621	33,621	-	25% across
Professional Services	348,177	87,044	87,044	87,044	87,044	-	25% across
Total General and Administrative	\$ 2,665,730	\$ 666,433	\$ 666,433	\$ 666,433	\$ 666,433	-	
REVENUE-FUNDED CAPITAL PROGRAMS							
Rate Funded Capital Projects	\$ 4,140,000	\$ 1,380,000	\$ 1,380,000	\$ -	\$ 1,380,000	-	33% Base/Max/Meters
Total Capital Project Costs	\$ 4,140,000	\$ 1,380,000	\$ 1,380,000	\$ -	\$ 1,380,000	-	
DEBT SERVICE							
Loan Payment	547,654	\$ 136,914	\$ 136,914	136,914	136,914	-	25% across
Total Debt Service	\$ 547,654	\$ 136,914	\$ 136,914	\$ 136,914	\$ 136,914	-	
TOTAL FUNCTIONALIZED COSTS	\$ 10,134,863	\$ 3,993,243	\$ 2,559,065	\$ 913,442	\$ 2,669,113		
FUNCTIONALIZATION FACTOR	100.00%	39.40%	25.25%	9.01%	26.34%		

Sources: Beaumont-Cherry Valley Water District

The resulting functionalization factors that appear at the bottom of Figure 3-7 are utilized to allocate system operating and capital costs to each customer class based on the each class' demand on the system.

Rate Design Balance

There is some flexibility in the design of the rate structure to meet the District's rate setting objectives while being consistent with cost of service principles and conservation objectives. There are positives and negatives associated with the decrease in fixed revenue. Typically, a larger percentage of fixed rate revenue results in greater revenue stability since a greater percentage of total revenues are not influenced by fluctuations in consumption due to the weather, household density, and abusive water use. At the same time, the decrease in fixed revenue will improve equitability concerning cost recovery and the impact of

conservation measures while reducing revenue stability, as users have greater control over their consumption and ultimately their bill. The fixed portion of the proposed water rates generates an estimated 35% of total rate revenue.

Rate Design Analysis

The final step of the rate study is the design of the water rates to collect the desired level of revenue determined in the revenue requirement analysis, while encouraging the efficient use of water. During this analysis, consideration is given to both the level of rates and the structure of the rates. This section reviews the proposed water rate design for the District. The District requested Willdan develop two rate structures one of which incorporates the costs of State Project Water Costs and SCE Power costs into the consumption rate. The second rate structure resembles the District's current rate structure which includes a separate SCE Power Charge and State Project Water Cost Charge.

Criteria and Considerations

In determining the appropriate rate level and structure, Willdan, in conjunction with District staff, analyzed various generated financial scenarios concerning the proposed adjustments and the implications attributed to those decisions.

A simplified list of some of the design considerations that were reviewed is listed:

- Consideration of the customer's ability to pay
- Clear and understandable rates
- Easily administered
- Conservation measures
- Revenue stability (month to month and year to year)
- Efficient allocation of resources
- Capital Improvement Financing (improving the existing system)
- Fair and equitable (cost-based) rates

Every consideration has merit and plays an important role in a comprehensive rate study. When developing the District's proposed rates all of the aforementioned criteria were taken into consideration. Determining the appropriate balance is crucial, as some of the criteria sometime conflict with one another, i.e. the customers ability to pay and cost-based. In designing rates, there will always be a balance between the various objectives; however, we attempt to ensure the proposed rates meet all of the leading objectives of the District.

Overview of Existing Rate Structure

The District has a fixed meter charge, an uniform consumption rate structure, a separate SCE Power Charge, a State Project Water Costs Charge and Private Fire Service Standby Charges. The District's Existing water rate structure, shown in Figure 3-8 currently employs an uniform rate structure as outlined in Figure 3-8. Figure 3-9 details the SCE Power Charge and State Project Water Costs Charge. All customer classes are charged a fixed bi-monthly fee based on meter size as shown in Figure 3-10. Figure 3-11 details the District's current private fire service charges.

Figure 3-8: Existing Rate Structure for all Customer Classes

<u>Description (Customer Class)</u>	<u>Current Rates</u>
Domestic Rate	.84 per ccf
Scheduled Irrigation Rate	.47 per ccf
Multiple Family Rate	.84 per ccf
Commercial Rate	.84 per ccf
Multiple Commercial Rate	.84 per ccf
Outside Service Rate	1.68 per ccf
Construction Water Rate	1.61 per ccf

Sources: Beaumont-Cherry Valley Water District.

Figure 3-9: Existing SCE Power Charge and State Project Water Costs Charge

SCE Power Charge - Not to exceed \$0.25 per ccf.

State Project Water Cost Charge - Not to exceed \$0.24 per ccf.

Sources: Beaumont-Cherry Valley Water District.

Figure 3-10: Existing Bi-Monthly Fixed Meter Charge

Description (Meter Size)	Current Rates
5/8"	\$ 12.00
3/4"	17.25
1"	28.00
1-1/2"	54.00
2"	85.00
3"	158.00
4"	262.00
6"	5,522.00
8"	834.00
10"	1,198.00
12"	2,238.00

Sources: Beaumont-Cherry Valley Water District.

Figure 3-11: Existing Private Fire Service Charges

Description (Meter Size)	Current Rates
4"	\$ 56.00
6"	162.00
8"	345.00
10"	619.00
12"	1,000.00

Sources: Beaumont-Cherry Valley Water District.

Proposed Rate Adjustments

Conservation

In addition to a cost-based approach, a secondary objective of the District is to encourage water conservation through design and implementation of the new rate and structure. Beyond the revenue adjustments established in the required revenue analysis and the allocation of cost determined in the cost of service analysis, Willdan and the District discussed changes to the rate structure (tiers) and consumption levels of the blocks (tiers). The proposed consumption blocks, tiers, enable the District to encourage conservation, while reducing the burden on those already conserving. By matching the consumption blocks to consumption levels, The District should be able to achieve their conservation goals.

Figure 3-12 and Figure 3-13, below, outlines the proposed changes to the existing water rate structure, which includes State Project Water Costs. Figure 3-14, Figure 3-15, and Figure 3-16, below, outlines the proposed changes to the existing water rate structure in which the State Project Water Costs and SCE

Power Costs will be recovered through direct surcharges. The policy of the District is to charge customers outside District boundaries an amount that is twice the rate stated in the figures below.

Figure 3-12: Domestic Tier Changes (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 2,837,414	\$ 3,375,242	\$ 3,843,200	\$ 3,939,280	\$ 4,037,762	\$ 4,138,706
Total Base Consumption (ccf)	<u>2,349,818</u>	<u>2,408,564</u>	<u>2,468,778</u>	<u>2,530,497</u>	<u>2,593,760</u>	<u>2,658,604</u>
Rate per ccf	\$ 1.21	\$ 1.40	\$ 1.56	\$ 1.56	\$ 1.56	\$ 1.56
Allocated Share of Peaking Costs	\$ 1,551,150	\$ 1,845,169	\$ 2,100,991	\$ 2,153,516	\$ 2,207,354	\$ 2,262,537
Total Consumption (ccf)	<u>1,174,909</u>	<u>1,204,282</u>	<u>1,234,389</u>	<u>1,265,249</u>	<u>1,296,880</u>	<u>1,329,302</u>
Cost per ccf	\$ 1.32	\$ 1.53	\$ 1.70	\$ 1.70	\$ 1.70	\$ 1.70
Block 1 Rate per ccf (0-44 ccf)	\$ 1.21	\$ 1.40	\$ 1.56	\$ 1.56	\$ 1.56	\$ 1.56
Block 2 Rate per ccf (45+ ccf)	\$ 1.32	\$ 1.53	\$ 1.70	\$ 1.70	\$ 1.70	\$ 1.70

Sources: Beaumont-Cherry Valley Water District.

Figure 3-13: Multi-Family Residential Tier Changes (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 126,499	\$ 150,476	\$ 171,339	\$ 175,622	\$ 180,013	\$ 184,513
Total Consumption (ccf)	<u>\$ 104,760</u>	<u>\$ 107,379</u>	<u>\$ 110,064</u>	<u>\$ 112,816</u>	<u>\$ 115,636</u>	<u>\$ 118,527</u>
Rate per ccf	\$ 1.21	\$ 1.40	\$ 1.56	\$ 1.56	\$ 1.56	\$ 1.56
Allocated Share of Peaking Costs	\$ 64,356	\$ 76,555	\$ 87,169	\$ 89,348	\$ 91,582	\$ 93,871
Total Consumption (ccf)	<u>52,380</u>	<u>53,690</u>	<u>55,032</u>	<u>56,408</u>	<u>57,818</u>	<u>59,263</u>
Cost per ccf	\$ 1.23	\$ 1.43	\$ 1.58	\$ 1.58	\$ 1.58	\$ 1.58
Block 1 Rate per ccf (0-35 ccf per unit)	\$ 1.21	\$ 1.40	\$ 1.56	\$ 1.56	\$ 1.56	\$ 1.56
Block 2 Rate per ccf (36+ ccf per unit)	\$ 1.23	\$ 1.43	\$ 1.58	\$ 1.58	\$ 1.58	\$ 1.58

Sources: Beaumont-Cherry Valley Water District.

Figure 3-14: Domestic Tier Changes (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 1,834,161	\$ 2,287,183	\$ 2,678,873	\$ 2,745,845	\$ 2,814,491	\$ 2,884,854
Total Base Consumption (ccf)	<u>2,349,818</u>	<u>2,408,564</u>	<u>2,468,778</u>	<u>2,530,497</u>	<u>2,593,760</u>	<u>2,658,604</u>
Rate per ccf	\$ 0.78	\$ 0.95	\$ 1.09	\$ 1.09	\$ 1.09	\$ 1.09
Allocated Share of Peaking Costs	\$ 1,076,710	\$ 1,342,649	\$ 1,572,583	\$ 1,611,898	\$ 1,652,195	\$ 1,693,500
Total Consumption (ccf)	<u>1,174,909</u>	<u>1,204,282</u>	<u>1,234,389</u>	<u>1,265,249</u>	<u>1,296,880</u>	<u>1,329,302</u>
Cost per ccf	\$ 0.92	\$ 1.11	\$ 1.27	\$ 1.27	\$ 1.27	\$ 1.27
Block 1 Rate per ccf (0-44 ccf)	\$ 0.78	\$ 0.95	\$ 1.09	\$ 1.09	\$ 1.09	\$ 1.09
Block 2 Rate per ccf (45+ ccf)	\$ 0.92	\$ 1.11	\$ 1.27	\$ 1.27	\$ 1.27	\$ 1.27

Sources: Beaumont-Cherry Valley Water District.

Figure 3-15: Multi-Family Residential Bi-Monthly Tier Changes (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 81,771	\$ 101,968	\$ 119,431	\$ 122,416	\$ 125,477	\$ 128,614
Total Consumption (ccf)	<u>104,760</u>	<u>107,379</u>	<u>110,064</u>	<u>112,816</u>	<u>115,636</u>	<u>118,527</u>
Rate per ccf	\$ 0.78	\$ 0.95	\$ 1.09	\$ 1.09	\$ 1.09	\$ 1.09
Allocated Share of Peaking Costs	\$ 44,672	\$ 55,706	\$ 65,245	\$ 66,877	\$ 68,548	\$ 70,262
Total Consumption (ccf)	<u>52,380</u>	<u>53,690</u>	<u>55,032</u>	<u>56,408</u>	<u>57,818</u>	<u>59,263</u>
Cost per ccf	\$ 0.85	\$ 1.04	\$ 1.19	\$ 1.19	\$ 1.19	\$ 1.19
Block 1 Rate per ccf (0-35 ccf per unit)	\$ 0.78	\$ 0.95	\$ 1.09	\$ 1.09	\$ 1.09	\$ 1.09
Block 2 Rate per ccf (36+ ccf per unit)	\$ 0.85	\$ 1.04	\$ 1.19	\$ 1.19	\$ 1.19	\$ 1.19

Sources: Beaumont-Cherry Valley Water District.

Figure 3-16: Proposed State Project Water and SCE Power Charges

	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<i><u>PASS THROUGH SURCHARGES</u></i>						
Electric Power Costs	\$ 1,700,000	\$ 1,768,000	\$ 1,838,720	\$ 1,912,269	\$ 1,988,760	\$ 2,068,310
Total Water Utility Consumption	<u>5,272,155</u>	<u>5,403,959</u>	<u>5,539,057</u>	<u>5,677,534</u>	<u>5,819,472</u>	<u>5,964,959</u>
SCE Power Charge per ccf	\$ 0.32	\$ 0.33	\$ 0.33	\$ 0.34	\$ 0.34	\$ 0.35
State Project Water Costs	\$ 570,600	\$ 593,424	\$ 617,161	\$ 641,847	\$ 667,521	\$ 694,222
Total Water Utility Consumption (ccf)	<u>5,272,155</u>	<u>5,403,959</u>	<u>5,539,057</u>	<u>5,677,534</u>	<u>5,819,472</u>	<u>5,964,959</u>
State Project Water Costs per ccf	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12

Sources: Beaumont-Cherry Valley Water District.

Summary of Water Rate Study

Throughout the process of the water rate study, many renditions and scenarios were considered. Presented below is the culmination of numerous analyses and discussions. Figure 3-17 summarizes the proposed bi-monthly private fire service charges by meter size as designed in this study. Figures 3-18 and 3-19 recap the proposed bi-monthly fixed base charge rate for each rate structure and Figure 3-20 & Figure 3-21 summarizes the variable charges for each rate structure by customer class as designed in this study.

Figure 3-17: Bi-Monthly Private Fire Service Charges

	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Total Annual Fire Service Costs	\$ 95,000	\$ 98,800	\$ 102,752	\$ 106,862	\$ 111,137	\$ 115,582
Number of Equivalent Connections	14,244	14,244	14,244	14,244	14,244	14,244
Charge per equivalent	\$ 6.67	\$ 6.94	\$ 7.21	\$ 7.50	\$ 7.80	\$ 8.11
Bi-Monthly Charge per equivalent	\$ 1.11	\$ 1.16	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35

Meter Size	Demand Factor ¹	Standby Fees - Minimum Bi-Monthly Charge					
1"	1.00	1.11	1.16	1.20	1.25	1.30	1.35
2"	6.19	6.88	7.16	7.44	7.74	8.05	8.37
4"	38.32	42.59	44.30	46.07	47.91	49.83	51.82
6"	111.31	123.73	128.68	133.82	139.18	144.74	150.53
8"	237.21	263.67	274.21	285.18	296.59	308.45	320.79
10"	426.58	474.16	493.13	512.85	533.37	554.70	576.89
12"	689.04	765.90	796.54	828.40	861.54	896.00	931.84

¹ Demand factors based on nominal size of connection raised to the 2.63 power. The demand factors are based on AWWA standards for allocating service costs to public and private fire accounts.

Sources: Beaumont-Cherry Valley Water District; Willdan Financial Services; American Water Works Association (AWWA)

Figure 3-18: Bi-Monthly Fixed Meter Charges (State Project Water Costs & Power Costs Included)

	Current Rates	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
BI-MONTHLY METER CHARGE							
Total Meter Related Costs	\$ 1,984,248	\$ 2,616,699	\$ 3,112,690	\$ 3,544,247	\$ 3,632,853	\$ 3,723,675	\$ 3,816,766
Number of Equivalent Meters	27,559	27,559	28,248	28,954	29,678	30,420	31,180
Bi-Monthly Meter Charge per 5/8" Meter	\$ 12.00	\$ 15.83	\$ 18.37	\$ 20.40	\$ 20.40	\$ 20.40	\$ 20.40

Meter Size	Equivalent Meter Factor	Bi-Monthly Meter Charge						
5/8"	1.00	12.00	15.83	18.37	20.40	20.40	20.40	20.40
3/4"	1.50	17.25	23.74	27.55	30.60	30.60	30.60	30.60
1"	2.50	28.00	39.56	45.92	51.01	51.01	51.01	51.01
1 1/2"	5.00	54.00	79.13	91.83	102.01	102.01	102.01	102.01
2"	8.00	85.00	126.60	146.93	163.22	163.22	163.22	163.22
3"	16.00	159.00	253.20	293.86	326.43	326.43	326.43	326.43
4"	25.00	262.00	395.63	459.15	510.05	510.05	510.05	510.05
6"	50.00	522.00	791.25	918.30	1,020.10	1,020.10	1,020.10	1,020.10
8"	80.00	834.00	1,266.00	1,469.28	1,632.16	1,632.16	1,632.16	1,632.16
10"	115.00	1,198.00	1,819.88	2,112.09	2,346.23	2,346.23	2,346.23	2,346.23
12"	155.00	2,238.00	2,452.88	2,846.73	3,162.31	3,162.31	3,162.31	3,162.31

Sources: Beaumont-Cherry Valley Water District.

Figure 3-19: Bi-Monthly Fixed Meter Charges(State Project Water Costs & Power Costs Not Included)

	Current Rates	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<u>BI-MONTHLY METER CHARGE</u>							
Total Meter Related Costs	\$ 1,984,248	\$ 2,461,315	\$ 3,069,239	\$ 3,594,860	\$ 3,684,731	\$ 3,776,850	\$ 3,871,271
Number of Equivalent Meters	27,559	27,559	28,248	28,954	29,678	30,420	31,180
Bi-Monthly Meter Charge per 5/8" Meter	\$ 12.00	\$ 14.89	\$ 18.11	\$ 20.69	\$ 20.69	\$ 20.69	\$ 20.69
Meter Size	Equivalent Meter Factor	Bi-Monthly Meter Charge					
5/8"	1.00	12.00	14.89	18.11	20.69	20.69	20.69
3/4"	1.50	17.25	22.33	27.16	31.04	31.04	31.04
1"	2.50	28.00	37.22	45.27	51.73	51.73	51.73
1 1/2"	5.00	54.00	74.43	90.55	103.47	103.47	103.47
2"	8.00	85.00	119.09	144.87	165.54	165.54	165.54
3"	16.00	159.00	238.18	289.74	331.09	331.09	331.09
4"	25.00	262.00	372.15	452.73	517.33	517.33	517.33
6"	50.00	522.00	744.30	905.45	1,034.65	1,034.65	1,034.65
8"	80.00	834.00	1,190.88	1,448.72	1,655.44	1,655.44	1,655.44
10"	115.00	1,198.00	1,711.89	2,082.54	2,379.70	2,379.70	2,379.70
12"	155.00	2,238.00	2,307.33	2,806.90	3,207.42	3,207.42	3,207.42

Sources: Beaumont-Cherry Valley Water District.

Figure 3-20: Proposed Commodity Charges (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic						
Block 1 Rate per ccf (0-44 ccf)	\$ 1.21	\$ 1.40	\$ 1.56	\$ 1.56	\$ 1.56	\$ 1.56
Block 2 Rate per ccf (45+ ccf)	1.32	1.53	1.70	1.70	1.70	1.70
Multi-Family Residential						
Block 1 Rate per ccf (0-35 ccf per unit)	1.21	1.40	1.56	1.56	1.56	1.56
Block 2 Rate per ccf (36+ ccf per unit)	1.23	1.43	1.58	1.58	1.58	1.58
Commercial/Fire Service						
Multiple Commercial	1.25	1.44	1.61	1.61	1.61	1.61
Landscape	1.45	1.68	1.86	1.86	1.86	1.86
Agriculture	1.28	1.48	1.64	1.64	1.64	1.64
Construction	1.45	1.68	1.87	1.87	1.87	1.87

Sources: Beaumont-Cherry Valley Water District.

Figure 3-21: Proposed Commodity Charges (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic						
Block 1 Rate per ccf (0-44 ccf)	\$ 0.78	\$ 0.95	\$ 1.09	\$ 1.09	\$ 1.09	\$ 1.09
Block 2 Rate per ccf (45+ ccf)	0.92	1.11	1.27	1.27	1.27	1.27
Multi-Family Residential						
Block 1 Rate per ccf (0-35 ccf per unit)	0.78	0.95	1.09	1.09	1.09	1.09
Block 2 Rate per ccf (36+ ccf per unit)	0.85	1.04	1.19	1.19	1.19	1.19
Commercial/Fire Service	0.83	1.00	1.15	1.15	1.15	1.15
Multiple Commercial	0.83	1.00	1.15	1.15	1.15	1.15
Landscape	0.97	1.17	1.34	1.34	1.34	1.34
Agriculture	0.85	1.03	1.18	1.18	1.18	1.18
Construction	0.97	1.18	1.35	1.35	1.35	1.35

Sources: Beaumont-Cherry Valley Water District.

Impact of Revenue Increase

In Calendar Year 2011, the proposed 15% increase in required revenue does not directly correlate to a 15% increase in rates. The cost of service analysis and, in Domestic’s case, the restructuring of the consumption blocks dictate the actual adjustments to the rates.

Figure 3-22 details a comparison of the District’s existing rates with the proposed domestic rates (rate increase effective January 2011). Based on the District’s Master Plan, the average gallons per day (gpd) for a domestic residence is 580 gallons per day. Given the household density of 2.79, this calculates to be a bi-monthly consumption of 44 ccf for an average domestic residence. As revealed in the comparison, those who burden the system the greatest, over 55 ccf, see a larger increase in their bi-monthly bill.

Figure 3-22: Bi-Monthly Comparative Water Bills - Domestic

2011 Proposed Block 1 Consumption Rate per ccf	(0-44 ccf)	\$	0.95
2011 Proposed Block 2 Consumption Rate per ccf	(45+ ccf)	\$	1.11

Bi-Monthly Usage (CCF)	Current Monthly Meter Rates	Bi-Monthly Meter Rates	Current Rates Consumption Charge	Current Rates Power & State PW Charges	Total Current Charge	Proposed Bi-Monthly Meter Charge	Proposed Block 1 Consumption Charge	Proposed Block 2 Consumption Charge	Proposed Power & State PW Charges	Total Proposed Charge	Increase/ (Decrease)
30	\$	12.00	\$ 25.20	\$ 14.70	\$ 51.90	\$ 14.89	28.49	\$ -	\$ 12.92	\$ 56.29	\$ 4.39
35		12.00	\$ 29.40	\$ 17.15	\$ 58.55	\$ 14.89	33.24	\$ -	\$ 15.07	\$ 63.20	\$ 4.65
44		12.00	\$ 36.96	\$ 21.56	\$ 70.52	\$ 14.89	41.78	\$ -	\$ 18.95	\$ 75.62	\$ 5.10
50		12.00	\$ 42.00	\$ 24.50	\$ 78.50	\$ 14.89	41.78	6.69	21.53	84.89	6.39
55		12.00	\$ 46.20	\$ 26.95	\$ 85.15	\$ 14.89	41.78	12.26	23.69	92.62	7.47
60		12.00	\$ 50.40	\$ 29.40	\$ 91.80	\$ 14.89	41.78	17.84	25.84	100.35	8.55

Sources: Beaumont-Cherry Valley Water District.

Beaumont-Cherry Valley Water District
California



Draft Report
Water Rate Study
Full CIP Paygo Option

April 22, 2010



27368 Via Industria, Suite 110
Temecula, CA 92590
T: 951.587.3500
F: 951.587.3510

April 22, 2010

Mr. Tony Lara
General Manager
Beaumont-Cherry Valley Water District
560 Magnolia Avenue
Beaumont, CA 92223

Dear Mr. Lara,

Willdan Financial Services (Willdan) is pleased to present this report on the water rate study conducted for Beaumont-Cherry Valley Water District (District).

This report was undertaken as the District is facing several challenges to continuing its high-quality operations. The focus of this study is to ensure that the utility has sufficient revenues to meet its operational, capital and debt service obligations and that rates are set proportionate to the costs of providing utility service to each customer class. Our report outlines the approach, methodology, findings, and conclusions of this study.

This report has been prepared using generally accepted rate setting techniques. The District's utility accounting, budgeting, and billing records were the primary sources for the data contained within the report. Furthermore, Willdan has worked closely with District staff over the course of this project. The conclusions contained within this report provide the District with a set of recommendations to provide stable technically defensible funding for continued high-quality operations.

It was a pleasure working with you, and we also wish to express our thanks to other staff members at the District, for the support and cooperation extended throughout the study.

Sincerely,

Willdan Financial Services

Gregg Tobler
Senior Project Analyst

Table of Contents

Table of Contents	iii
List of Figures.....	iv
Executive Summary	5
Project Background	7
Key Financial Plan Objectives.....	7
Overview of the Rate Study Process	8
Organization of the Report	9
Rate Setting Principles	10
Established Principles & Guidelines	10
Revenue Requirements.....	11
Financial Planning	11
Rate Design	12
Rate Setting Principles Summary	12
Water Rate Analysis	13
Revenue Requirements Analysis.....	14
Cost of Service Analysis.....	18
Rate Design Analysis	20

List of Figures

Table of Contents	iii
List of Figures.....	iv
Executive Summary	5
Figure E-1: Projection Using Current Water Rates.....	5
Figure E-2: Projection Using Proposed Water Rates.....	6
Project Background	7
Figure 1-1: Comprehensive Rate Study Interrelated Analysis	9
Rate Setting Principles	10
Figure 2-1: Overview of the “Cash Basis” Design.....	11
Water Rate Analysis	13
Figure 3-1: Revenue and Expenditure Projections – Existing Rates.....	13
Figure 3-2: Accounts and Consumption	14
Figure 3-3: Projected Debt Service	15
Figure 3-4: Water Capital Projects	16
Figure 3-5: Revenue Requirements.....	17
Figure 3-6: Revenue and Expenditure Projections – Proposed Rates.....	18
Figure 3-7: Classification of Water Expenses by Function	19
Figure 3-8: Existing Rate Structure for all Customer Classes	21
Figure 3-9: Existing SCE Power Charge and State Project Water Costs Charge	21
Figure 3-10: Existing Bi-Monthly Fixed Meter Charge	22
Figure 3-11: Existing Private Fire Service Charges	22
Figure 3-12: Domestic Tier Changes (State Project Water Costs & Power Costs Included)	23
Figure 3-13: Multi-Family Residential Tier Changes (State Project Water Costs & Power Costs Included)	23
.....	23
Figure 3-14: Domestic Tier Changes (State Project Water Costs & Power Costs Not Included)	23
Figure 3-15: Multi-Family Residential Bi-Monthly Tier Changes (State Project Water Costs & Power	
Costs Not Included)	24
Figure 3-16: Proposed State Project Water and SCE Power Charges	24
Figure 3-17: Bi-Monthly Private Fire Service Charges.....	25
Figure 3-18: Bi-Monthly Fixed Meter Charges (State Project Water Costs & Power Costs Included)....	25
Figure 3-19: Bi-Monthly Fixed Meter Charges(State Project Water Costs & Power Costs Not Included)	
.....	26
Figure 3-20: Proposed Commodity Charges (State Project Water Costs & Power Costs Included)	26
Figure 3-21: Proposed Commodity Charges (State Project Water Costs & Power Costs Not Included)	27
Figure 3-22: Bi-Monthly Comparative Water Bills - Domestic	28

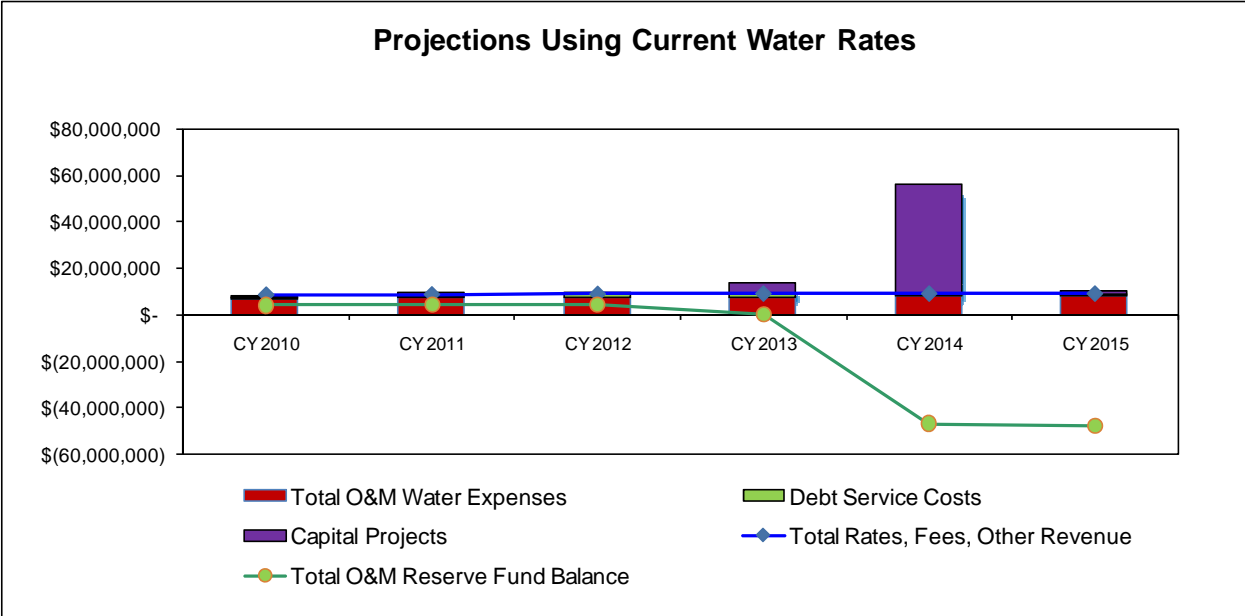
Executive Summary

The District desires rates that fully fund operations, maintenance, and present and future capital costs for new wells, infrastructure rehabilitation, and enhancements. The District is facing several challenges to continuing its water utility operations, including inadequate annual water rate revenues to keep pace with increasing operational, maintenance and major capital costs; and the need to meet water conservation objectives while maintaining a self-funding water utility enterprise fund.

The District retained Willdan Financial Services (Willdan) to prepare a rate study for the water utility to ensure the utility has sufficient revenues to meet their operational, capital and debt service obligations and that rates are set proportionate to the costs of providing utility service to each customer class in compliance with Proposition 218. Therefore, the purpose of the proposed rate study is to provide recommendations on changes to the current utility rate structure to meet these challenges. As part of this rate study, Willdan facilitated dialogue with District staff during conference calls and meetings. During these discussions, the District made recommendations to incorporate into the study where appropriate. This report documents the findings, analyses and recommendations of the comprehensive rate study effort.

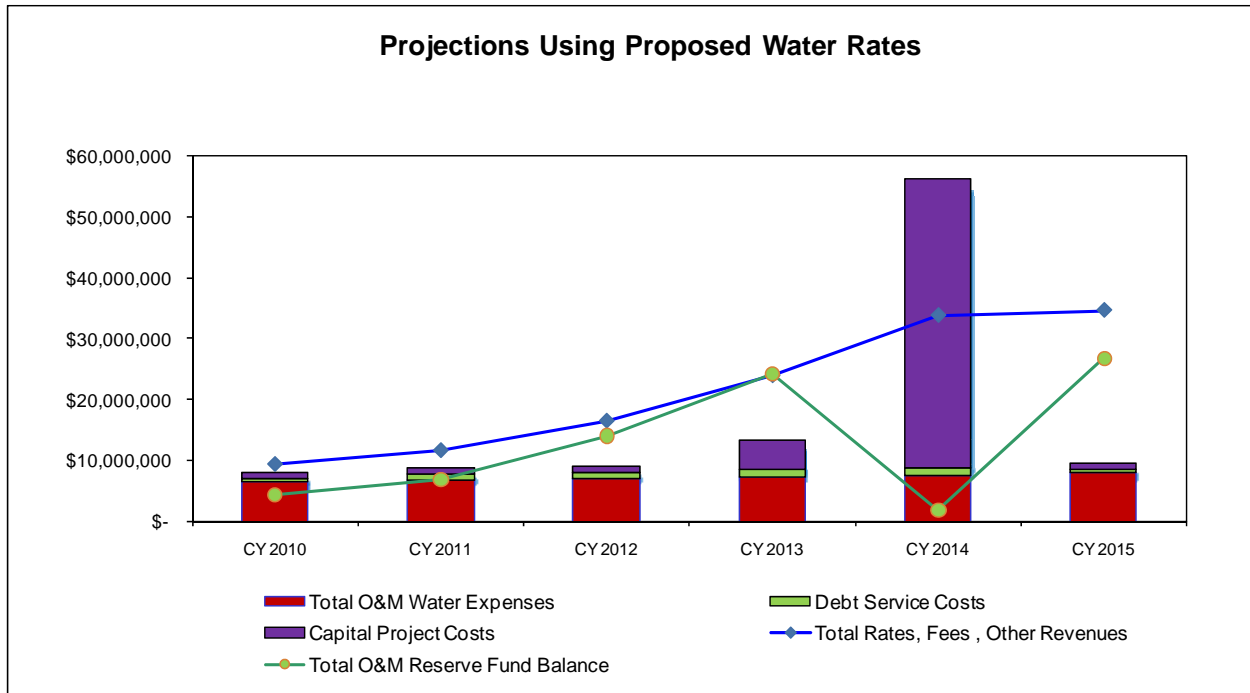
The graph (Figure E-1) below demonstrates the current and projected financial conditions of the water system absent a comprehensive rate restructuring and assuming no rate increases over the next 5 years. As the figure illustrates, holding rate structures and rates constant will result in depleted reserve funds, reduced quality of operations or services, and deferred capital projects that are urgently needed due to aging infrastructure.

Figure E-1: Projection Using Current Water Rates



The graph (Figure E-2) below demonstrates the projected financial condition of the water system assuming adoption of a comprehensive rate restructuring and recommended rate increases over the next 5 years. As the figures illustrate, the proposed rate structure and rate increases will enable the District to continue its operations, establish prudent reserve fund levels, and fund capital projects that are urgently needed through a bond financing.

Figure E-2: Projection Using Proposed Water Rates



The following report provides detail regarding the supporting rate analysis and recommendations.

Project Background

Beaumont-Cherry Valley Water District owns and operates a water system for residents and businesses within Beaumont, Cherry Valley and parts of southeastern Calimesa. As of Calendar Year 2010, the water system provides service to approximately 15,000 residential and non-residential potable water customers. The District operates the water system as a self-supporting enterprise.

The District's responsibilities include water storage and delivery, water resource management, water policy development, and water conservation programs. The District maintains 10 active wells with a system production capacity of 34 million gallons per day. The District receives the majority of its water from groundwater supplies. The remainder of the water the District receives comes from State Water Purchase Program.

The District is currently implementing a major capital improvement program which includes new potable wells, well rehabilitation and pipeline, non-potable wells, completion of the recharge facility, a recycled water connection, reservoir painting and rehabilitation, and distribution & transmission pipeline replacement.

The District is facing several challenges to continuing its water utility operations. Utility revenues are not keeping pace with increasing operational and capital costs. In addition, customer account growth has slowed to a 2.5% annual rate and utility infrastructure is aging and must be replaced or repaired.

Due to the uniform water rate schedule, recent market conditions, and conservation objectives implemented by water purveyors, the current model does not accurately predict the revenue stream required for services provided. The District desires rates that fully fund operations, maintenance, present and future capital costs, and accounts for water conservation goals.

Key Financial Plan Objectives

Several objectives were identified during the study to guide decisions regarding the proposed financial plans and rate structures. The major objectives of the study were:

- Utility rates and fees should generate sufficient revenues to meet operating costs, capital program requirements, debt service obligations, and maintain adequate reserves consistent with sound financial management practices
- Utility rates should be set proportionate to the cost of providing utility service to each customer class to promote fairness and equity and compliance with Proposition 218
- A financial plan that shifts a majority of future capital funding to a debt financing to mitigate the impact on rates that the District's customers pay.
- A financial plan that minimizes the need to continually update the water rate structure
- Conservation objectives of the District to encourage the efficient use of water

- Utility rate and fee structures should be supported by a financial model that is easy to update should costs and assumptions change in the future beyond what was projected at the time of this report

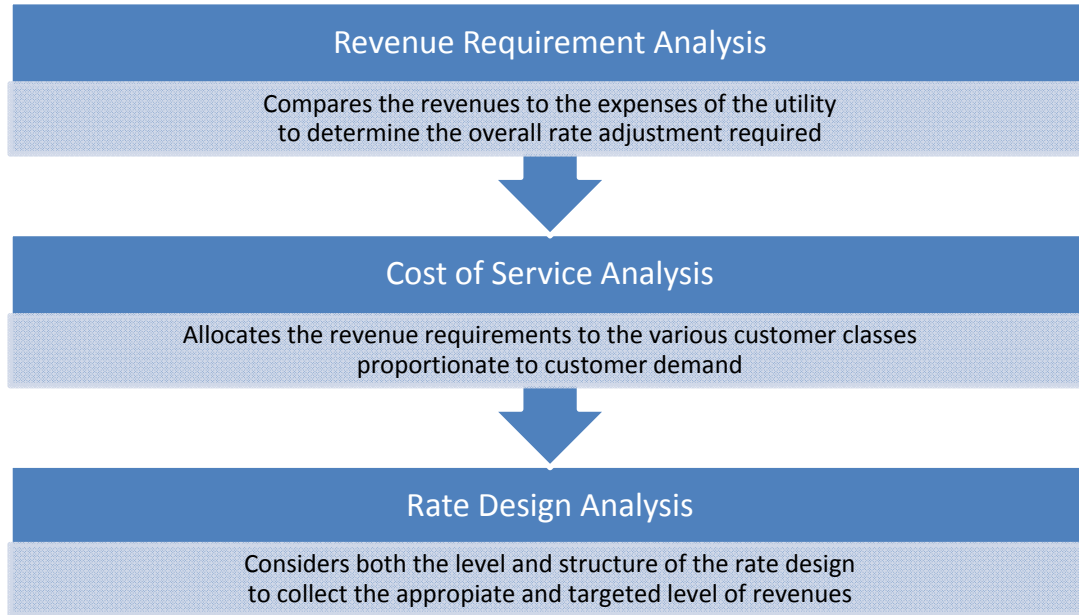
In reviewing the above objectives, it should be noted that the District has limited control over external forces such as growth, consumer behavior, the cost of purchasing water, and system usage. Recognizing these factors, we believe that the recommendations in this study provide a fair, reasonable, and balanced set of proposed rates and fees for the District that, to the extent possible, meets these key objectives.

Overview of the Rate Study Process

The scope of this study included the development of cost-based water user charges through a comprehensive cost of service and rate design analysis. Utility rates must be set at a level where a utility's operating and capital expenses are met with the revenues received from customers. This is a significant point, as failure to achieve this level may lead to insufficient funds being available to appropriately maintain the system. A comprehensive rate study typically consists of following three interrelated analyses (Figure 1-1 provides an overview of these processes).

- **Financial Planning/Revenue Requirement Analysis:** Create a ten-year plan to support an orderly, efficient program of on-going maintenance and operating costs, capital improvement and replacement activities, and retirement of outstanding debt. In addition, the long-term plan should fund and maintain reserve balances to adequate levels based on industry standards and District fiscal policies.
- **Cost of Service Analysis:** Identifies and apportions annual revenue requirements to the different customer classes based on their demand on each utility system.
- **Rate Design:** Develops a fixed/variable schedule of rates for each customer class to proportionately recover the costs attributable to them. This is also, where other policy objectives can be achieved, such as discouraging wasteful water use. The policy objectives are balanced with the cost of service objectives to maintain the delicate balance between customer equity, financial stability and resource conservation goals.

Figure 1-1: Comprehensive Rate Study Interrelated Analysis



Organization of the Report

This report is organized to provide an overview of utility rate setting principles, then a separate detailed review of the rate design process. The following sections comprise the water rate study report:

- Rate Setting Principles
- Water Rate Analysis

Rate Setting Principles

The primary objective of conducting a comprehensive rate study is to determine the adequacy of the existing rates (pricing and structure) and provide the basis for any necessary adjustments to meet the District's operating and capital needs as well as policy objectives, such as water conservation. The District desires rate structures that fully fund operations, maintenance, and present and future capital costs (plant expansions, distribution systems, and collection system rehabilitation, enhancements, or expansion). Furthermore, the District desired to maintain or possibly enhance its current conservation-based rate structure. A tiered rate structure encourages conservation by allocating each customer a consumption allotment based on average usage for which they are charged a base rate per hundred cubic foot (ccf). If an account's consumption exceeds its allotment, then the customer is charged an increased rate (block 2) per ccf for the consumption that falls above the allotment.

Established Principles & Guidelines

Over the past years, many generally accepted principles or guidelines have been established to assist in developing utility rates. The purpose of this section of the report is to provide a general background of the methodology and guidelines used for setting cost based utility rates. This will provide the reader with a higher-level understanding of the general process detailed later in this report.

As a practical matter, there should be a general set of principles to develop rates. The American Water Works Association (AWWA) establishes these principles in the M1 Manual – *Principles of Water Rates, Fees and Charges*. These guiding principles help to ensure there is a consistent global approach that is employed by all utilities in the development of their rates (water and water-related utilities including sewer and reclaimed water).

Below is a summary listing the established guidelines, which public utilities should consider when setting their rates. These closely reflect the District's specified objectives.

- Rates should be cost-based and equitable, and set at a level such that they provide revenue sufficiency.
- Rates and process of allocating costs should conform to generally accepted rate setting techniques.
- Rates should provide reliable, stable and adequate revenue to meets the utility's financial, operation, and regulatory requirements.
- Rate levels should be stable from year to year (limit "rate shocks").
- Rates should be easy to understand and administer.

These guidelines, along with the District's objectives, have been utilized within this study to help develop utility rates that are cost-based and equitable.

Revenue Requirements

The method used by most public utilities to establish their revenue requirements is called the “cash basis” approach of setting rates. As the name implies, a public utility combines its cash expenditures over a period of time to determine their required revenues from user rates and other forms of income. The figure below presents the “cash basis” methodology.

Figure 2-1: Overview of the “Cash Basis” Design

+ Operation and Maintenance Expenses
+ Taxes/Transfers
+ Capital Additions Financed with Rate Revenue
+ Debt Service (Principal and Interest)
= Total Revenue Requirements

To ensure existing ratepayers are not paying for growth-related capital projects, Willdan reviewed existing, approved/pending, and proposed Capital Improvement Projects (CIPs) with District staff to allocate projects between new (growth) and existing customers (operations and maintenance or “O&M”). Additionally, capital replacement expense is sometimes included to stabilize annual required revenue requirements by spreading the replacement costs of a depreciated asset over the expected life of the asset or through the term of bond issue, when municipal bond financing is used.

Based on the revenue requirement analysis, the utility can determine the overall level of rate adjustment needed in order for the utility to meet its overall expenditure needs.

Financial Planning

In the development of the revenue requirements, many assumptions are utilized to project future expenditures, customer and consumption growth, and necessary revenue adjustments. The District’s budget documents are used as the initial starting point; however, assumptions play a necessary role in projecting future required revenue.

Conservative growth assumptions and prudent financial planning are fundamental to ensuring adequate rate revenue to promote financial stability. The financial model developed appropriately considers the District’s existing debt service coverage ratios and operating reserve balances. In addition, as part of the financial planning, municipal bond financing is incorporated into the model to fund repair and replacement cost of depreciated infrastructure and assets. This enables the District to mitigate future rate increases as money for repair and replacement is amortized over a bond term of 20 to 30 years. As debt is redeemed, new bond issues may be utilized to fund additional capital improvements required due to the aging infrastructure.

Rate Design

The final element, the rate design process, applies the results from the revenue requirements to develop rates that achieve the general guidelines and objectives of the District. These objectives may include consideration of cost-based rates, but may also consider items such as ability to pay, continuity of past rate philosophy, conservation, encouragement of economic development, ease of administration, and legal requirements. While cost-based rates are an important objective, all objectives should be balanced appropriately.

While the general description of the utility rate setting process discussed in this section of the report is simplified and condensed, it does address the underlying fundamentals. One of the key principles for a comprehensive rate study is found in economic theory, which suggests the price of a commodity must roughly equal its cost or value if equity among customers is to be maintained – i.e. cost-based. For example, capacity-related costs are usually incurred by a water utility to meet peak use requirements. Consequently, the customers causing peak demands should properly pay for the demand-related facilities in proportion to their contribution to maximum demands. Through refinement of costing and pricing techniques, consumers of a product are given a more accurate price point of what the commodity costs to produce and deliver.

The above fundamentals have considerable foundation in economic literature. They also serve as primary guidelines for Proposition 218 compliance and rate design by most utility regulators and administrative agencies. This “price-equals-cost” theory provides the basis for much of the subsequent analysis and comment. This theory is particularly important as the proposed rate structure has been modified to encourage conservation while maintaining this economic principle.

Rate Setting Principles Summary

This section of the report provides a brief introduction to the general principles, techniques, and economic theory used to set utility rates. These principles, techniques, and economic theory were the starting point for this rate study and the groundwork used to meet the District’s key objectives in analyzing and adjusting their utility rates. When setting utility rates in California we are required to follow the principles of Proposition 218. Below is a brief discussion of Prop 218.

In *Bighorn-Desert View Water Agency v. Verjil*, the California Supreme Court held water agency’s rates were subject to repeal by initiative pursuant to Section 3 of Article XIIC of the California Constitution. Because of the Bighorn decision, water rates in California are now considered property-related fees, therefore the substantive and procedural requirements of California Constitution Articles XIIC and XIID (Proposition 218) apply to water rate setting. Section 6 of Article XIID states:

The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.

This utility rate study was performed to allocate the costs of providing service to users in order to ensure that rates are equitable and not unduly discriminatory, thereby satisfying the Proposition 218 requirements. The total cost of serving each customer class is determined by distributing each of the utility cost components among the user classes based upon the respective service requirements of each customer

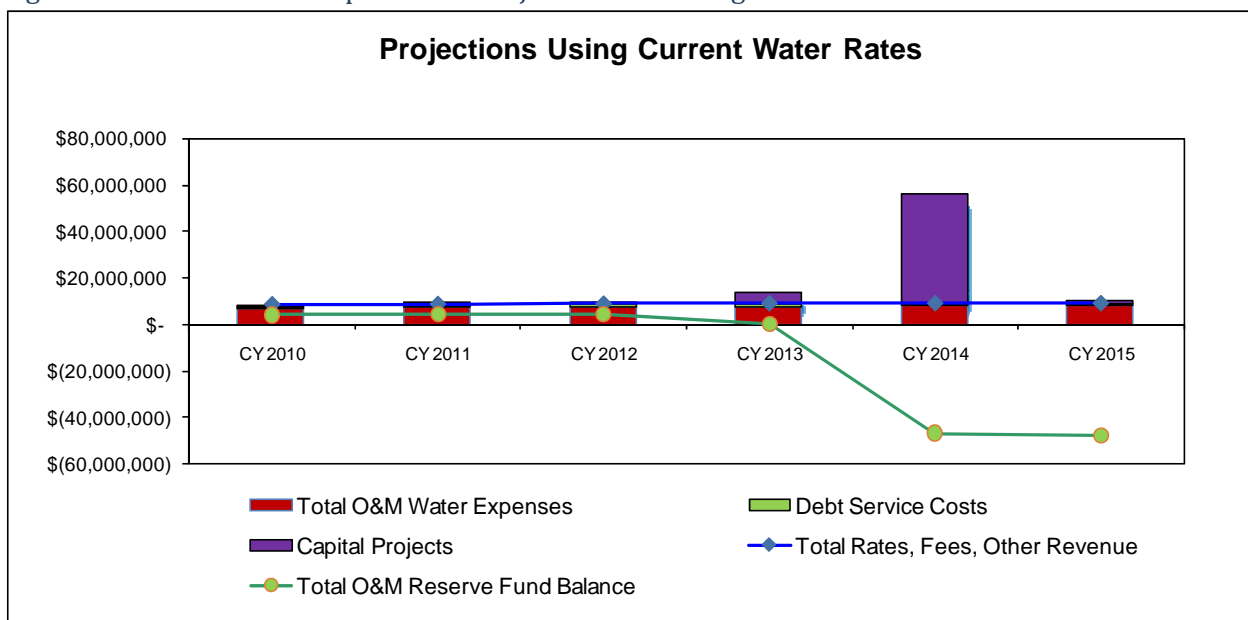
class. Therefore, a true cost of service rate study enables a water utility to adopt rates based on the true costs to each user class. The purposes of this water utility cost of service study include:

- ♦ Proportional allocation of the costs of service to users.
- ♦ Derivation of unit costs to support the development of water rates.

Water Rate Analysis

The District is facing several challenges to continuing its high-quality operations. Utility revenues are not keeping pace with increasing operational and capital costs. In addition, customer account growth has slowed to a 2.5% rate and utility infrastructure is aging and must be replaced or repaired soon. Considering the above variables, Figure 3-1 projects the adequacy of existing rate revenue to support ongoing operations and maintenance.

Figure 3-1: Revenue and Expenditure Projections – Existing Rates



As the above figure indicates, revenue increases are necessary to operate and maintain the water system. This will be evident as details of the process, data, and methodology utilized in the rate study are presented in this section of the report. Summary figures, outlining much of the analysis are included in this section of the report as well.

Customer Statistics

During the calendar Year 2009, the District provided water service to an estimated 15,000 customers, distributing roughly 5.27 million hundred cubic feet (~13,700 acre feet) of potable water. Figure 3-2 shows the District's projected water usage and number of accounts by customer class.

Figure 3-2: Accounts and Consumption

Description	Projected Water Consumption (ccf)					
	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic	3,524,727	3,612,846	3,703,167	3,795,746	3,890,640	3,987,906
Multiple Family	157,141	161,069	165,096	169,223	173,454	177,790
Commercial/Fire Service	424,669	435,285	446,168	457,322	468,755	480,474
Multiple Commercial	39,268	40,249	41,256	42,287	43,344	44,428
Landscape	980,886	1,005,408	1,030,543	1,056,307	1,082,715	1,109,783
Agriculture	54,957	56,331	57,740	59,183	60,663	62,179
Construction Water	<u>90,506</u>	<u>92,769</u>	<u>95,088</u>	<u>97,466</u>	<u>99,902</u>	<u>102,400</u>
Total Water Utility Consumption	5,272,155	5,403,959	5,539,057	5,677,534	5,819,472	5,964,959
	Percent of Total					
Domestic	66.9%	66.9%	66.9%	66.9%	66.9%	66.9%
Multiple Family	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Commercial/Fire Service	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%
Multiple Commercial	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
Landscape	18.6%	18.6%	18.6%	18.6%	18.6%	18.6%
Agriculture	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Construction Water	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>
Total Water Utility Consumption	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sources: Beaumont-Cherry Valley Water District.

A projection of customers, usage, and production requirements is necessary in the evaluation of the revenue requirements. This projection is critical for the determination of revenues from rates, escalation of production-related costs, and design of the rates.

Given the current economic climate and review of potential growth, Willdan in conjunction with District staff determined to use a conservative growth rate equal to 2.5%.

Revenue Requirements Analysis

Revenue from Existing Rates

The first step in developing the revenue requirements is to develop a projection of revenues from existing rates. The District expects to receive approximately \$6.1 million in water sales in Calendar Year 2010. By 2020, assuming the growth discussed above, water sales are projected to increase roughly 25% to \$7.6 million. In addition to water sales, the District has a projected average of non-operating revenues approximately equal to two hundred thousand dollars, consisting of interest income.

Projections of Operation and Maintenance Expenses

To project Operating and Maintenance (O&M) expenses over the five-year planning horizon, two escalation factors were developed. The operations cost escalator, set at 4.00%, is applied to basic expenditures that the District incurs: labor, benefits, materials, utilities, etc. The Personnel cost escalator is set at 4.0%. In order for the District to maintain a stable Operating Reserve, Emergency Reserve, Rate Stabilization Reserve and Capital Recovery Reserve: Per the District’s recommendation, the District should, depending upon the current year circumstances, have at least a one-year reserve of spendable resources equal to that year’s total operating expenses including depreciation. If total operating expenses plus depreciation expense equals \$10.0 million, then the spendable net assets reserve should be \$10.0 million.

Debt Service

The District does not currently have long-term debt. Figure 3-3 illustrates the amount of projected debt service for both the current capital projects and the major capital improvements. The District plans on paying for the current capital projects in the amount of five million by financing them via a five-year loan with a rate of 3.38%. Figure 3-3 provides a summary of the District’s water related projected debt service.

Figure 3-3: Projected Debt Service

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<u>Debt Service</u>						
Proposed Loan Payment (Current CIP)	554,969	1,090,256	1,097,977	1,094,430	1,094,870	544,042
Proposed Bond Issue (Major CIP)	-	-	-	-	-	-
Total Debt Service	\$ 554,969	\$ 1,090,256	\$ 1,097,977	\$ 1,094,430	\$ 1,094,870	\$ 544,042

Sources: Beaumont-Cherry Valley Water District, Willdan Financial Services.

Capital Improvement Projects

The District's Capital Improvement Program (CIP) needs for the water utility are summarized in Figure 3-4. Individually, each project was identified by District staff as growth-related, existing needs (O&M) or a percentage of both to determine the appropriate funding mechanism (bi-monthly rates or connection fee). The capital projects are required to meet the utilities projected growth and to maintain the existing quality of the system.

Figure 3-4: Water Capital Projects

% Allocated to Existing Customers	Project Name/Description	Funding Source	Projected				Current 2010-15
			2012	2013	2014	2015	
Production/Conservation							
100%	Beaumont Basin New Water Well	Water Rates		3,375,000			3,375,000
100%	Singleton Basin New Well	Water Rates			1,802,000		1,802,000
100%	Bonita Vista/Cherry Valley Water Company Well Rehabilitation and Pipeline	Water Rates			1,579,000		1,579,000
100%	RR1 Well Rehabilitation and Pipeline	Water Rates			400,000		400,000
100%	Pollution Control Project	Water Rates			5,140,000		5,140,000
100%	San Timoteo Non-potable Wells and Pipeline to Recycled Water System	Water Rates			6,590,000		6,590,000
100%	Completion of the Stormwater Capture Project incl Phase 3 of the Recharge Facility	Water Rates			10,757,000		10,757,000
100%	Sundance Stormwater Recovery Project	Water Rates			2,093,000		2,093,000
100%	Noble Creek Rubber Dam Project	Water Rates			1,620,000		1,620,000
100%	Secondary Recycled Water Connection	Water Rates			7,620,000		7,620,000
100%	Highland Springs Reservoir Painting and Rehabilitation	Depreciation	177,000				177,000
100%	Distribution and Transmission Pipeline Replacement	Depreciation				3,277,000	3,277,000
100%	GIS and GPS Equipment Upgrades	Depreciation	47,000				
Total Cost in CY 2010 Dollars (CIP funded by Water Rates).			\$ -	\$ 3,375,000	\$ 37,601,000	\$ -	\$ 40,976,000
Total Cost in CY 2010 Dollars (R&R Projects Funded by depreciation)			\$ 224,000	\$ -	\$ -	\$ 3,277,000	\$ 3,501,000
Total Construction cost estimates escalated annually by PPI (CIP funded by Water Rates).				\$ 3,980,220	\$ 46,210,540		\$ 50,190,760
Total Construction cost estimates escalated annually by PPI (R&R Projects Funded by depreciation)			\$ 253,497	\$ -	\$ -	\$ 4,196,879	\$ 4,450,376

Notes:

Construction cost estimates were escalated annually by a factor of 4.21% based on the average annual increase between 2004 and 2009 in Engineering News Record Construction Cost Index.

Sources: Beaumont-Cherry Valley Water District; Engineering News Record's Construction Cost Index; Willdan Financial Services.

Summary of Revenue Requirements Analysis

The above components comprise the foundation of the revenue requirement analysis. During the discussions with the District, District staff made recommendations to assure the accuracy of financial and growth variables used in developing the revenue requirement analysis. Particular emphasis was placed on attempting to minimize rates, yet still encompass adequate funds to support the operational activities and capital projects throughout the study period.

The revenue requirements analysis figure, presented below, provides a basis for evaluating the timing and level of water revenue increases required to meet the projected required revenue for the study period. The percentages shown at the bottom of the figure show the recommended revenue adjustments.

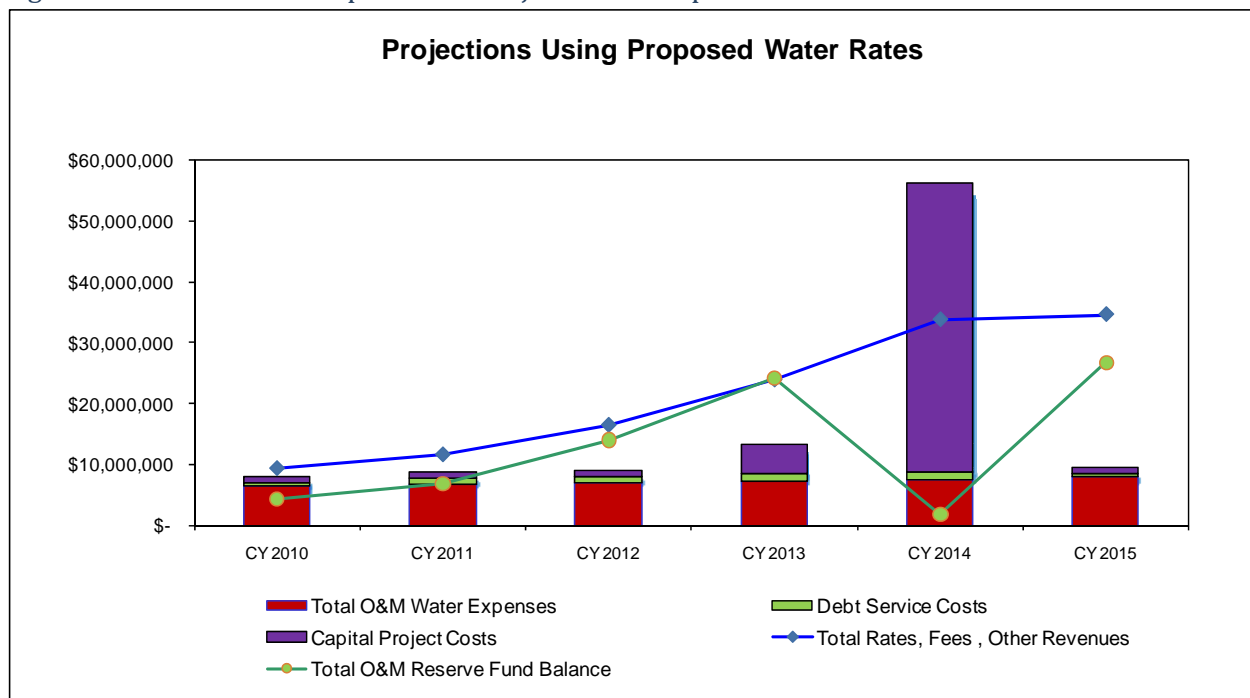
Figure 3-5: Revenue Requirements

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Operating Revenue						
1 Water Sales	\$ 6,092,979	\$ 6,245,303	\$ 6,401,436	\$ 6,561,472	\$ 6,725,509	\$ 6,893,646
2 Service Connections	2,635,501	2,701,389	2,768,923	2,838,146	2,909,100	2,981,827
3 Reimbursements (Development & Inspection)	60,000	61,500	63,038	64,613	66,229	67,884
4 Other	148,200	151,905	155,703	159,595	163,585	167,675
5 Total Operating Revenue	\$ 8,936,680	\$ 9,160,097	\$ 9,389,099	\$ 9,623,827	\$ 9,864,423	\$ 10,111,033
Additional Revenue Required						
6 Year	Revenue Increase	Months Effective				
8 CY 2010	15.00%	6	456,973	936,796	960,215	984,221
9 CY 2011	20.00%	12	-	1,436,420	1,472,330	1,509,139
10 CY 2012	50.00%	12	-	-	4,416,991	1,546,867
11 CY 2013	50.00%	12	-	-	-	4,640,601
12 CY 2014	45.00%	12	-	-	-	6,960,902
13 CY 2015	0.00%	12	-	-	-	7,134,924
14 CY 2016	0.00%	12	-	-	-	9,397,217
15 CY 2017	0.00%	12	-	-	-	-
16 CY 2018	0.00%	12	-	-	-	-
17 CY 2019	0.00%	12	-	-	-	-
18 Total Additional Operating Revenue	456,973	2,373,215	6,849,537	13,811,898	23,554,413	24,143,273
19 Total Required Revenue	\$ 9,393,653	\$ 11,533,312	\$ 16,238,636	\$ 23,435,725	\$ 33,418,836	\$ 34,254,307
Applications of Operating Funds						
<u>Operating Expenses</u>						
21 Source of Supply	\$ 3,071,820	\$ 3,194,693	\$ 3,322,481	\$ 3,455,380	\$ 3,593,595	\$ 3,737,339
23 Transmission & Distribution	938,700	976,248	1,015,298	1,055,910	1,098,146	1,142,072
24 Customer Service & Meter Reading	183,400	190,736	198,365	206,300	214,552	223,134
25 General Administration	1,818,300	1,891,032	1,966,673	2,045,340	2,127,154	2,212,240
26 Maintenance & General Plant	393,400	409,136	425,501	442,521	460,222	478,631
27 Engineering (In-House)	112,012	116,492	121,152	125,998	131,038	136,280
28 Professional Services	290,000	301,600	313,664	326,211	339,259	352,829
29 Total Operating Expenses	\$ 6,807,632	\$ 7,079,937	\$ 7,363,135	\$ 7,657,660	\$ 7,963,967	\$ 8,282,525
30 Net Operating Income (Loss)	\$ 2,586,021	\$ 4,453,375	\$ 8,875,501	\$ 15,778,065	\$ 25,454,869	\$ 25,971,781
<u>Debt Service</u>						
32 Proposed Loan Payment (Current CIP)	554,969	1,090,256	1,097,977	1,094,430	1,094,870	544,042
33 Proposed Bond Issue (Major CIP)	-	-	-	-	-	-
34 Total Debt Service	\$ 554,969	\$ 1,090,256	\$ 1,097,977	\$ 1,094,430	\$ 1,094,870	\$ 544,042
35 Coverage Ratio	4.81	4.27	8.38	14.93	23.65	48.55
Non-Operating Revenue (Expenses)						
37 Miscellaneous expense	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)
38 Investment income	86,021	206,905	324,432	563,165	436,113	439,102
39 Total Non-Operating Revenue (Expenses)	\$ 77,839	\$ 198,723	\$ 316,250	\$ 554,983	\$ 427,931	\$ 430,920
Capital Project Expenses						
41 CIP Program	\$ -	\$ -	\$ -	\$ 3,980,220	\$ 46,210,540	\$ -
42 Repair & Replacement Reserve (Depreciation)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
43 Rate Funded Capital Projects	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 4,980,220	\$ 47,210,540	\$ 1,000,000
44 Net Income (Loss)	\$ 1,108,891	\$ 2,561,843	\$ 7,093,775	\$ 10,258,398	\$ (22,422,610)	\$ 24,858,660
45 Operating Reserve Fund Balance Met?	-	-	-	-	Target Balance Not	-
Fund Information						
<u>Description</u>						
Operating & Maintenance Fund						
49 Beginning Operating Fund Balance	\$ 3,386,403	\$ 4,495,294	\$ 7,057,137	\$ 14,150,912	\$ 24,409,310	\$ 1,986,700
50 Deposit (Withdrawals)	1,108,891	2,561,843	7,093,775	10,258,398	(22,422,610)	24,858,660
51 Total O&M Fund Balance	\$ 4,495,294	\$ 7,057,137	\$ 14,150,912	\$ 24,409,310	\$ 1,986,700	\$ 26,845,360
52 Fund Balance Days of O&M	180	180	180	180	180	180
53 Recommended Reserve Balance	3,357,188	3,491,476	3,631,135	3,776,380	3,927,436	4,084,533
54 Excess O&M	-	-	-	-	-	-
55 Total O&M Fund Balance	\$ 4,495,294	\$ 7,057,137	\$ 14,150,912	\$ 24,409,310	\$ 1,986,700	\$ 26,845,360
Repair and Replacement Reserve Fund						
56 Beginning Operating Fund Balance	\$ -	\$ 1,000,000	\$ 2,000,000	\$ 2,746,503	\$ 3,746,503	\$ 4,746,503
57 Deposit	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
58 Withdrawals for R&R Projects	-	-	(253,497)	-	-	(4,196,879)
59 Excess O&M	-	-	-	-	-	-
60 Total R&R Fund Balance	\$ 1,000,000	\$ 2,000,000	\$ 2,746,503	\$ 3,746,503	\$ 4,746,503	\$ 1,549,624

Sources: Beaumont-Cherry Valley Water District, Willdan Financial Services.

Based upon the revenue requirement analysis, the District will need to adjust the rates to increase revenue by 15% for the remaining six months of calendar year 2010, followed by a 20% increase in revenues in calendar year 2011, followed by a 50% increase in revenues in calendar years 2012 and 2013, followed by a 45% increase in revenues in calendar year 2014. This approach will result in a 350% revenue increase over the next five years. Figure 3-6 expands upon the earlier figure (Figure 3-1), to illustrate the positive impact of the revenue increase on the utility’s financial condition.

Figure 3-6: Revenue and Expenditure Projections – Proposed Rates



Cost of Service Analysis

The cost of service analysis is a systematic process by which revenue requirements are used to generate a classification of fair and equitable costs in proportion to the service received for each user class.

Cost Allocation by Function

The cost of service allocation conducted in this study is established on the base-extra capacity method endorsed by the AWWA. Under the base-extra capacity method, revenue requirements are allocated to the different user classes proportionate to their use on the water system. Allocations are based on average day (base) usage, maximum day (peak) usage, meters and services, billing and collection, and fire protection. Use of this methodology results in an AWWA-accepted cost distribution among customer classes and a means of calculating and designing rates to proportionately recover those costs.

Figure 3-7 classifies the major functions of the water system and allocates those related costs to the demand factors average day (base), maximum day (peak) usage, meters and services, and customer accounts.

Figure 3-7: Classification of Water Expenses by Function

Description	Total Revenue Requirement	Extra Capacity		Customer Costs		Basis of Classification
		Base	Max Day	Customer Billing	Meters & Services	
SOURCE OF SUPPLY						
Labor and Admin Source of Supply	\$ 961,809	\$ 961,809	\$ -	\$ -	\$ -	100% Base
Water and Utility Cost - Source of Supply	\$ 144	\$ 96	\$ 48	\$ -	\$ -	Avg/Max Day
Total Source of Supply	\$ 961,953	\$ 961,905	\$ 48	\$ -	\$ -	
MAINTENANCE & GENERAL PLANT						
Maintenance & General Plant	\$ 472,320	\$ 472,320	\$ -	\$ -	\$ -	100% Base
Total Maintenance & General Plant	\$ 472,320	\$ 472,320	\$ -	\$ -	\$ -	
TRANSMISSION & DISTRIBUTION						
Transmission & Distribution	\$ 1,127,013	\$ 375,671	\$ 375,671	\$ -	\$ 375,671	33% Base/Max/Meters
Total Transmission & Distribution	\$ 1,127,013	\$ 375,671	\$ 375,671	\$ -	\$ 375,671	
CUSTOMER COSTS						
Customer Service & Meter Reading	\$ 220,192	\$ -	\$ -	\$ 110,096	\$ 110,096	50% fixed
Total Customer Costs	\$ 220,192	\$ -	\$ -	\$ 110,096	\$ 110,096	
Total O & M (\$)	\$ 2,781,479	\$ 1,809,897	\$ 375,719	\$ 110,096	\$ 485,767	
Total O & M (%)	100.00%	65.07%	13.51%	3.96%	17.46%	
GENERAL & ADMINISTRATIVE						
General Administration	\$ 2,183,070	\$ 545,768	\$ 545,768	\$ 545,768	\$ 545,768	25% across
Engineering (In-House)	134,483	33,621	33,621	33,621	33,621	25% across
Professional Services	348,177	87,044	87,044	87,044	87,044	25% across
Total General and Administrative	\$ 2,665,730	\$ 666,433	\$ 666,433	\$ 666,433	\$ 666,433	
REVENUE-FUNDED CAPITAL PROGRAMS						
Rate Funded Capital Projects	\$ 6,019,076	\$ 2,006,359	\$ 2,006,359	\$ -	\$ 2,006,359	33% Base/Max/Meters
Total Capital Project Costs	\$ 6,019,076	\$ 2,006,359	\$ 2,006,359	\$ -	\$ 2,006,359	
DEBT SERVICE						
Loan Payment	547,654	\$ 136,914	\$ 136,914	136,914	136,914	25% across
Total Debt Service	\$ 547,654	\$ 136,914	\$ 136,914	\$ 136,914	\$ 136,914	
TOTAL FUNCTIONALIZED COSTS	\$ 12,013,940	\$ 4,619,601	\$ 3,185,424	\$ 913,442	\$ 3,295,472	
FUNCTIONALIZATION FACTOR	100.00%	38.45%	26.51%	7.60%	27.43%	

Sources: Beaumont-Cherry Valley Water District

The resulting functionalization factors that appear at the bottom of Figure 3-7 are utilized to allocate system operating and capital costs to each customer class based on the each class' demand on the system.

Rate Design Balance

There is some flexibility in the design of the rate structure to meet the District's rate setting objectives while being consistent with cost of service principles and conservation objectives. There are positives and negatives associated with the decrease in fixed revenue. Typically, a larger percentage of fixed rate revenue results in greater revenue stability since a greater percentage of total revenues are not influenced by fluctuations in consumption due to the weather, household density, and abusive water use. At the same time, the decrease in fixed revenue will improve equitability concerning cost recovery and the impact of

conservation measures while reducing revenue stability, as users have greater control over their consumption and ultimately their bill. The fixed portion of the proposed water rates generates an estimated 35% of total rate revenue.

Rate Design Analysis

The final step of the rate study is the design of the water rates to collect the desired level of revenue determined in the revenue requirement analysis, while encouraging the efficient use of water. During this analysis, consideration is given to both the level of rates and the structure of the rates. This section reviews the proposed water rate design for the District. The District requested Willdan develop two rate structures one of which incorporates the costs of State Project Water Costs and SCE Power costs into the consumption rate. The second rate structure resembles the District's current rate structure which includes a separate SCE Power Charge and State Project Water Cost Charge.

Criteria and Considerations

In determining the appropriate rate level and structure, Willdan, in conjunction with District staff, analyzed various generated financial scenarios concerning the proposed adjustments and the implications attributed to those decisions.

A simplified list of some of the design considerations that were reviewed is listed:

- Consideration of the customer's ability to pay
- Clear and understandable rates
- Easily administered
- Conservation measures
- Revenue stability (month to month and year to year)
- Efficient allocation of resources
- Capital Improvement Financing (improving the existing system)
- Fair and equitable (cost-based) rates

Every consideration has merit and plays an important role in a comprehensive rate study. When developing the District's proposed rates all of the aforementioned criteria were taken into consideration. Determining the appropriate balance is crucial, as some of the criteria sometime conflict with one another, i.e. the customers ability to pay and cost-based. In designing rates, there will always be a balance between the various objectives; however, we attempt to ensure the proposed rates meet all of the leading objectives of the District.

Overview of Existing Rate Structure

The District has a fixed meter charge, an uniform consumption rate structure, a separate SCE Power Charge, a State Project Water Costs Charge and Private Fire Service Standby Charges. The District's Existing water rate structure, shown in Figure 3-8 currently employs an uniform rate structure as outlined in Figure 3-8. Figure 3-9 details the SCE Power Charge and State Project Water Costs Charge. All customer classes are charged a fixed bi-monthly fee based on meter size as shown in Figure 3-10. Figure 3-11 details the District's current private fire service charges.

Figure 3-8: Existing Rate Structure for all Customer Classes

<u>Description (Customer Class)</u>	<u>Current Rates</u>
Domestic Rate	.84 per ccf
Scheduled Irrigation Rate	.47 per ccf
Multiple Family Rate	.84 per ccf
Commercial Rate	.84 per ccf
Multiple Commercial Rate	.84 per ccf
Outside Service Rate	1.68 per ccf
Construction Water Rate	1.61 per ccf

Sources: Beaumont-Cherry Valley Water District.

Figure 3-9: Existing SCE Power Charge and State Project Water Costs Charge

SCE Power Charge - Not to exceed \$0.25 per ccf.
State Project Water Cost Charge - Not to exceed \$0.24 per ccf.

Sources: Beaumont-Cherry Valley Water District.

Figure 3-10: Existing Bi-Monthly Fixed Meter Charge

Description (Meter Size)	Current Rates
5/8"	\$ 12.00
3/4"	17.25
1"	28.00
1-1/2"	54.00
2"	85.00
3"	158.00
4"	262.00
6"	5,522.00
8"	834.00
10"	1,198.00
12"	2,238.00

Sources: Beaumont-Cherry Valley Water District.

Figure 3-11: Existing Private Fire Service Charges

Description (Meter Size)	Current Rates
4"	\$ 56.00
6"	162.00
8"	345.00
10"	619.00
12"	1,000.00

Sources: Beaumont-Cherry Valley Water District.

Proposed Rate Adjustments

Conservation

In addition to a cost-based approach, a secondary objective of the District is to encourage water conservation through design and implementation of the new rate and structure. Beyond the revenue adjustments established in the required revenue analysis and the allocation of cost determined in the cost of service analysis, Willdan and the District discussed changes to the rate structure (tiers) and consumption levels of the blocks (tiers). The proposed consumption blocks, tiers, enable the District to encourage conservation, while reducing the burden on those already conserving. By matching the consumption blocks to consumption levels, The District should be able to achieve their conservation goals.

Figure 3-12 and Figure 3-13, below, outlines the proposed changes to the existing water rate structure, which includes State Project Water Costs. Figure 3-14, Figure 3-15, and Figure 3-16, below, outlines the proposed changes to the existing water rate structure in which the State Project Water Costs and SCE

Power Costs will be recovered through direct surcharges. The policy of the District is to charge customers outside District boundaries an amount that is twice the rate stated in the figures below.

Figure 3-12: Domestic Tier Changes (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 2,742,565	\$ 3,367,259	\$ 4,741,022	\$ 6,842,280	\$ 9,756,943	\$ 10,000,867
Total Base Consumption (ccf)	2,349,818	2,408,564	2,468,778	2,530,497	2,593,760	2,658,604
Rate per ccf	\$ 1.17	\$ 1.40	\$ 1.92	\$ 2.70	\$ 3.76	\$ 3.76
Allocated Share of Peaking Costs	\$ 1,597,865	\$ 1,961,822	\$ 2,762,200	\$ 3,986,428	\$ 5,684,560	\$ 5,826,674
Total Consumption (ccf)	1,174,909	1,204,282	1,234,389	1,265,249	1,296,880	1,329,302
Cost per ccf	\$ 1.36	\$ 1.63	\$ 2.24	\$ 3.15	\$ 4.38	\$ 4.38
Block 1 Rate per ccf (0-44 ccf)	\$ 1.17	\$ 1.40	\$ 1.92	\$ 2.70	\$ 3.76	\$ 3.76
Block 2 Rate per ccf (45+ ccf)	\$ 1.36	\$ 1.63	\$ 2.24	\$ 3.15	\$ 4.38	\$ 4.38

Sources: Beaumont-Cherry Valley Water District.

Figure 3-13: Multi-Family Residential Tier Changes (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 122,270	\$ 150,120	\$ 211,366	\$ 305,045	\$ 434,988	\$ 445,862
Total Consumption (ccf)	\$ 104,760	\$ 107,379	\$ 110,064	\$ 112,816	\$ 115,636	\$ 118,527
Rate per ccf	\$ 1.17	\$ 1.40	\$ 1.92	\$ 2.70	\$ 3.76	\$ 3.76
Allocated Share of Peaking Costs	\$ 66,294	\$ 81,395	\$ 114,602	\$ 165,394	\$ 235,849	\$ 241,745
Total Consumption (ccf)	52,380	53,690	55,032	56,408	57,818	59,263
Cost per ccf	\$ 1.27	\$ 1.52	\$ 2.08	\$ 2.93	\$ 4.08	\$ 4.08
Block 1 Rate per ccf (0-35 ccf per unit)	\$ 1.17	\$ 1.40	\$ 1.92	\$ 2.70	\$ 3.76	\$ 3.76
Block 2 Rate per ccf (36+ ccf per unit)	\$ 1.27	\$ 1.52	\$ 2.08	\$ 2.93	\$ 4.08	\$ 4.08

Sources: Beaumont-Cherry Valley Water District.

Figure 3-14: Domestic Tier Changes (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 1,789,982	\$ 2,324,409	\$ 3,518,008	\$ 5,351,773	\$ 7,901,338	\$ 8,098,872
Total Base Consumption (ccf)	2,349,818	2,408,564	2,468,778	2,530,497	2,593,760	2,658,604
Rate per ccf	\$ 0.76	\$ 0.97	\$ 1.42	\$ 2.11	\$ 3.05	\$ 3.05
Allocated Share of Peaking Costs	\$ 1,130,621	\$ 1,468,186	\$ 2,222,109	\$ 3,380,385	\$ 4,990,788	\$ 5,115,558
Total Consumption (ccf)	1,174,909	1,204,282	1,234,389	1,265,249	1,296,880	1,329,302
Cost per ccf	\$ 0.96	\$ 1.22	\$ 1.80	\$ 2.67	\$ 3.85	\$ 3.85
Block 1 Rate per ccf (0-44 ccf)	\$ 0.76	\$ 0.97	\$ 1.42	\$ 2.11	\$ 3.05	\$ 3.05
Block 2 Rate per ccf (45+ ccf)	\$ 0.96	\$ 1.22	\$ 1.80	\$ 2.67	\$ 3.85	\$ 3.85

Sources: Beaumont-Cherry Valley Water District.

Figure 3-15: Multi-Family Residential Bi-Monthly Tier Changes (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 79,802	\$ 103,628	\$ 156,841	\$ 238,595	\$ 352,260	\$ 361,067
Total Consumption (ccf)	<u>104,760</u>	<u>107,379</u>	<u>110,064</u>	<u>112,816</u>	<u>115,636</u>	<u>118,527</u>
Rate per ccf	\$ 0.76	\$ 0.97	\$ 1.42	\$ 2.11	\$ 3.05	\$ 3.05
Allocated Share of Peaking Costs	\$ 46,909	\$ 60,914	\$ 92,194	\$ 140,250	\$ 207,064	\$ 212,241
Total Consumption (ccf)	<u>52,380</u>	<u>53,690</u>	<u>55,032</u>	<u>56,408</u>	<u>57,818</u>	<u>59,263</u>
Cost per ccf	\$ 0.90	\$ 1.13	\$ 1.68	\$ 2.49	\$ 3.58	\$ 3.58
Block 1 Rate per ccf (0-35 ccf per unit)	\$ 0.76	\$ 0.97	\$ 1.42	\$ 2.11	\$ 3.05	\$ 3.05
Block 2 Rate per ccf (36+ ccf per unit)	\$ 0.90	\$ 1.13	\$ 1.68	\$ 2.49	\$ 3.58	\$ 3.58

Sources: Beaumont-Cherry Valley Water District.

Figure 3-16: Proposed State Project Water and SCE Power Charges

	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<i>PASS THROUGH SURCHARGES</i>						
Electric Power Costs	\$ 1,700,000	\$ 1,768,000	\$ 1,838,720	\$ 1,912,269	\$ 1,988,760	\$ 2,068,310
Total Water Utility Consumption	<u>5,272,155</u>	<u>5,403,959</u>	<u>5,539,057</u>	<u>5,677,534</u>	<u>5,819,472</u>	<u>5,964,959</u>
SCE Power Charge per ccf	\$ 0.32	\$ 0.33	\$ 0.33	\$ 0.34	\$ 0.34	\$ 0.35
State Project Water Costs	\$ 570,600	\$ 593,424	\$ 617,161	\$ 641,847	\$ 667,521	\$ 694,222
Total Water Utility Consumption (ccf)	<u>5,272,155</u>	<u>5,403,959</u>	<u>5,539,057</u>	<u>5,677,534</u>	<u>5,819,472</u>	<u>5,964,959</u>
State Project Water Costs per ccf	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12

Sources: Beaumont-Cherry Valley Water District.

Summary of Water Rate Study

Throughout the process of the water rate study, many renditions and scenarios were considered. Presented below is the culmination of numerous analyses and discussions. Figure 3-17 summarizes the proposed bi-monthly private fire service charges by meter size as designed in this study. Figures 3-18 and 3-19 recap the proposed bi-monthly fixed base charge rate for each rate structure and Figure 3-20 & Figure 3-21 summarizes the variable charges for each rate structure by customer class as designed in this study.

Figure 3-17: Bi-Monthly Private Fire Service Charges

	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Total Annual Fire Service Costs	\$ 95,000	\$ 98,800	\$ 102,752	\$ 106,862	\$ 111,137	\$ 115,582
Number of Equivalent Connections	14,244	14,244	14,244	14,244	14,244	14,244
Charge per equivalent	\$ 6.67	\$ 6.94	\$ 7.21	\$ 7.50	\$ 7.80	\$ 8.11
Bi-Monthly Charge per equivalent	\$ 1.11	\$ 1.16	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35

Meter Size	Demand Factor ¹	Standby Fees - Minimum Bi-Monthly Charge					
1"	1.00	1.11	1.16	1.20	1.25	1.30	1.35
2"	6.19	6.88	7.16	7.44	7.74	8.05	8.37
4"	38.32	42.59	44.30	46.07	47.91	49.83	51.82
6"	111.31	123.73	128.68	133.82	139.18	144.74	150.53
8"	237.21	263.67	274.21	285.18	296.59	308.45	320.79
10"	426.58	474.16	493.13	512.85	533.37	554.70	576.89
12"	689.04	765.90	796.54	828.40	861.54	896.00	931.84

¹ Demand factors based on nominal size of connection raised to the 2.63 power. The demand factors are based on AWWA standards for allocating service costs to public and private fire accounts.

Sources: Beaumont-Cherry Valley Water District; Willdan Financial Services; American Water Works Association (AWWA)

Figure 3-18: Bi-Monthly Fixed Meter Charges (State Project Water Costs & Power Costs Included)

	Current Rates	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<u>BI-MONTHLY METER CHARGE</u>							
Total Meter Related Costs	\$ 1,984,248	\$ 2,682,290	\$ 3,293,254	\$ 4,636,826	\$ 6,691,903	\$ 9,542,508	\$ 9,781,071
Number of Equivalent Meters	27,559	27,559	28,248	28,954	29,678	30,420	31,180
Bi-Monthly Meter Charge per 5/8" Meter	\$ 12.00	\$ 16.22	\$ 19.43	\$ 26.69	\$ 37.58	\$ 52.28	\$ 52.28
Meter Size	Equivalent Meter Factor	Bi-Monthly Meter Charge					
5/8"	1.00	12.00	16.22	19.43	26.69	37.58	52.28
3/4"	1.50	17.25	24.33	29.15	40.04	56.37	78.42
1"	2.50	28.00	40.56	48.58	66.73	93.95	130.71
1 1/2"	5.00	54.00	81.11	97.16	133.46	187.91	261.42
2"	8.00	85.00	129.78	155.45	213.53	300.65	418.26
3"	16.00	159.00	259.55	310.90	427.06	601.30	836.53
4"	25.00	262.00	405.55	485.78	667.28	939.53	1,307.08
6"	50.00	522.00	811.10	971.55	1,334.55	1,879.05	2,614.15
8"	80.00	834.00	1,297.76	1,554.48	2,135.28	3,006.48	4,182.64
10"	115.00	1,198.00	1,865.53	2,234.57	3,069.47	4,321.82	6,012.55
12"	155.00	2,238.00	2,514.41	3,011.81	4,137.11	5,825.06	8,103.87

Sources: Beaumont-Cherry Valley Water District.

Figure 3-19: Bi-Monthly Fixed Meter Charges(State Project Water Costs & Power Costs Not Included)

		Current Rates	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
BI-MONTHLY METER CHARGE								
Total Meter Related Costs		\$ 1,984,248	\$ 2,439,365	\$ 3,167,675	\$ 4,794,298	\$ 7,293,329	\$ 10,767,845	\$ 11,037,041
Number of Equivalent Meters		27,559	27,559	28,248	28,954	29,678	30,420	31,180
Bi-Monthly Meter Charge per 5/8" Meter		\$ 12.00	\$ 14.75	\$ 18.69	\$ 27.60	\$ 40.96	\$ 59.00	\$ 59.00
Meter Size	Equivalent Meter Factor	Bi-Monthly Meter Charge						
5/8"	1.00	12.00	14.75	18.69	27.60	40.96	59.00	59.00
3/4"	1.50	17.25	22.13	28.04	41.40	61.44	88.49	88.49
1"	2.50	28.00	36.88	46.73	69.00	102.40	147.49	147.49
1 1/2"	5.00	54.00	73.77	93.45	137.99	204.80	294.98	294.98
2"	8.00	85.00	118.02	149.52	220.78	327.67	471.97	471.97
3"	16.00	159.00	236.05	299.04	441.57	655.34	943.94	943.94
4"	25.00	262.00	368.83	467.25	689.95	1,023.98	1,474.90	1,474.90
6"	50.00	522.00	737.65	934.50	1,379.90	2,047.95	2,949.80	2,949.80
8"	80.00	834.00	1,180.24	1,495.20	2,207.84	3,276.72	4,719.68	4,719.68
10"	115.00	1,198.00	1,696.60	2,149.35	3,173.77	4,710.29	6,784.54	6,784.54
12"	155.00	2,238.00	2,286.72	2,896.95	4,277.69	6,348.65	9,144.38	9,144.38

Sources: Beaumont-Cherry Valley Water District.

Figure 3-20: Proposed Commodity Charges (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic						
Block 1 Rate per ccf (0-44 ccf)	\$ 1.17	\$ 1.40	\$ 1.92	\$ 2.70	\$ 3.76	\$ 3.76
Block 2 Rate per ccf (45+ ccf)	1.36	1.63	2.24	3.15	4.38	4.38
Multi-Family Residential						
Block 1 Rate per ccf (0-35 ccf per unit)	1.17	1.40	1.92	2.70	3.76	3.76
Block 2 Rate per ccf (36+ ccf per unit)	1.27	1.52	2.08	2.93	4.08	4.08
Commercial/Fire Service						
Multiple Commercial	1.23	1.48	2.03	2.85	3.97	3.97
Landscape	1.44	1.72	2.37	3.33	4.64	4.64
Agriculture	1.26	1.51	2.08	2.93	4.07	4.07
Construction	1.44	1.73	2.37	3.34	4.65	4.65

Sources: Beaumont-Cherry Valley Water District.

Figure 3-21: Proposed Commodity Charges (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic						
Block 1 Rate per ccf (0-44 ccf)	\$ 0.76	\$ 0.97	\$ 1.42	\$ 2.11	\$ 3.05	\$ 3.05
Block 2 Rate per ccf (45+ ccf)	0.96	1.22	1.80	2.67	3.85	3.85
Multi-Family Residential						
Block 1 Rate per ccf (0-35 ccf per unit)	0.76	0.97	1.42	2.11	3.05	3.05
Block 2 Rate per ccf (36+ ccf per unit)	0.90	1.13	1.68	2.49	3.58	3.58
Commercial/Fire Service	0.83	1.05	1.55	2.30	3.31	3.31
Multiple Commercial	0.83	1.05	1.55	2.30	3.31	3.31
Landscape	0.98	1.24	1.82	2.71	3.90	3.90
Agriculture	0.85	1.08	1.59	2.36	3.40	3.40
Construction	0.98	1.24	1.83	2.72	3.91	3.91

Sources: Beaumont-Cherry Valley Water District.

Impact of Revenue Increase

In Calendar Year 2011, the proposed 15% increase in required revenue does not directly correlate to a 15% increase in rates. The cost of service analysis and, in Domestic’s case, the restructuring of the consumption blocks dictate the actual adjustments to the rates.

Figure 3-22 details a comparison of the District’s existing rates with the proposed domestic rates (rate increase effective January 2011). Based on the District’s Master Plan, the average gallons per day (gpd) for a domestic residence is 580 gallons per day. Given the household density of 2.79, this calculates to be a bi-monthly consumption of 44 ccf for an average domestic residence. As revealed in the comparison, those who burden the system the greatest, over 55 ccf, see a larger increase in their bi-monthly bill.

Figure 3-22: Bi-Monthly Comparative Water Bills - Domestic

2011 Proposed Block 1 Consumption Rate per ccf	(0-44 ccf)	\$	0.97
2011 Proposed Block 2 Consumption Rate per ccf	(45+ ccf)	\$	1.22

Bi-Monthly Usage (CCF)	Current Monthly Meter Rates	Bi-Monthly Consumption Charge	Current Rates Power & State PW Charges	Current Rates Power & State PW Charges	Total Current Charge	Proposed Bi-Monthly Meter Charge	Proposed Block 1 Consumption Charge	Proposed Block 2 Consumption Charge	Proposed Power & State PW Charges	Total Proposed Charge	Increase/ (Decrease)								
30	\$	12.00	\$	25.20	\$	14.70	\$	51.90	\$	14.75	28.95	\$	-	\$	12.92	\$	56.63	\$	4.73
35		12.00		29.40		17.15		58.55		14.75	33.78		-		15.07		63.60		5.05
44		12.00		36.96		21.56		70.52		14.75	42.46		-		18.95		76.17		5.65
50		12.00		42.00		24.50		78.50		14.75	42.46		7.31		21.53		86.06		7.56
55		12.00		46.20		26.95		85.15		14.75	42.46		13.41		23.69		94.31		9.16
60		12.00		50.40		29.40		91.80		14.75	42.46		19.51		25.84		102.56		10.76

Sources: Beaumont-Cherry Valley Water District.

Beaumont-Cherry Valley Water District
California



Draft Report
Water Rate Study
Modified CIP Paygo Option

April 22, 2010



27368 Via Industria, Suite 110
Temecula, CA 92590
T: 951.587.3500
F: 951.587.3510

April 22, 2010

Mr. Tony Lara
General Manager
Beaumont-Cherry Valley Water District
560 Magnolia Avenue
Beaumont, CA 92223

Dear Mr. Lara,

Willdan Financial Services (Willdan) is pleased to present this report on the water rate study conducted for Beaumont-Cherry Valley Water District (District).

This report was undertaken as the District is facing several challenges to continuing its high-quality operations. The focus of this study is to ensure that the utility has sufficient revenues to meet its operational, capital and debt service obligations and that rates are set proportionate to the costs of providing utility service to each customer class. Our report outlines the approach, methodology, findings, and conclusions of this study.

This report has been prepared using generally accepted rate setting techniques. The District's utility accounting, budgeting, and billing records were the primary sources for the data contained within the report. Furthermore, Willdan has worked closely with District staff over the course of this project. The conclusions contained within this report provide the District with a set of recommendations to provide stable technically defensible funding for continued high-quality operations.

It was a pleasure working with you, and we also wish to express our thanks to other staff members at the District, for the support and cooperation extended throughout the study.

Sincerely,

Willdan Financial Services

Gregg Tobler
Senior Project Analyst

Table of Contents

Table of Contents	iii
List of Figures.....	iv
Executive Summary	5
Project Background	7
Key Financial Plan Objectives.....	7
Overview of the Rate Study Process	8
Organization of the Report	9
Rate Setting Principles	10
Established Principles & Guidelines	10
Revenue Requirements.....	11
Financial Planning	11
Rate Design	12
Rate Setting Principles Summary.....	12
Water Rate Analysis	13
Revenue Requirements Analysis.....	14
Cost of Service Analysis.....	18
Rate Design Analysis	20

List of Figures

Table of Contents	iii
List of Figures.....	iv
Executive Summary	5
Figure E-1: Projection Using Current Water Rates.....	5
Figure E-2: Projection Using Proposed Water Rates.....	6
Project Background	7
Figure 1-1: Comprehensive Rate Study Interrelated Analysis	9
Rate Setting Principles	10
Figure 2-1: Overview of the “Cash Basis” Design.....	11
Water Rate Analysis	13
Figure 3-1: Revenue and Expenditure Projections – Existing Rates.....	13
Figure 3-2: Accounts and Consumption	14
Figure 3-3: Projected Debt Service	15
Figure 3-4: Water Capital Projects	16
Figure 3-5: Revenue Requirements.....	17
Figure 3-6: Revenue and Expenditure Projections – Proposed Rates.....	18
Figure 3-7: Classification of Water Expenses by Function	19
Figure 3-8: Existing Rate Structure for all Customer Classes	21
Figure 3-9: Existing SCE Power Charge and State Project Water Costs Charge	21
Figure 3-10: Existing Bi-Monthly Fixed Meter Charge	22
Figure 3-11: Existing Private Fire Service Charges	22
Figure 3-12: Domestic Tier Changes (State Project Water Costs & Power Costs Included)	23
Figure 3-13: Multi-Family Residential Tier Changes (State Project Water Costs & Power Costs Included)	23
.....	23
Figure 3-14: Domestic Tier Changes (State Project Water Costs & Power Costs Not Included)	23
Figure 3-15: Multi-Family Residential Bi-Monthly Tier Changes (State Project Water Costs & Power	24
Costs Not Included)	24
Figure 3-16: Proposed State Project Water and SCE Power Charges	24
Figure 3-17: Bi-Monthly Private Fire Service Charges.....	25
Figure 3-18: Bi-Monthly Fixed Meter Charges (State Project Water Costs & Power Costs Included)	25
Figure 3-19: Bi-Monthly Fixed Meter Charges(State Project Water Costs & Power Costs Not Included)	26
.....	26
Figure 3-20: Proposed Commodity Charges (State Project Water Costs & Power Costs Included)	26
Figure 3-21: Proposed Commodity Charges (State Project Water Costs & Power Costs Not Included)	27
Figure 3-22: Bi-Monthly Comparative Water Bills - Domestic	28

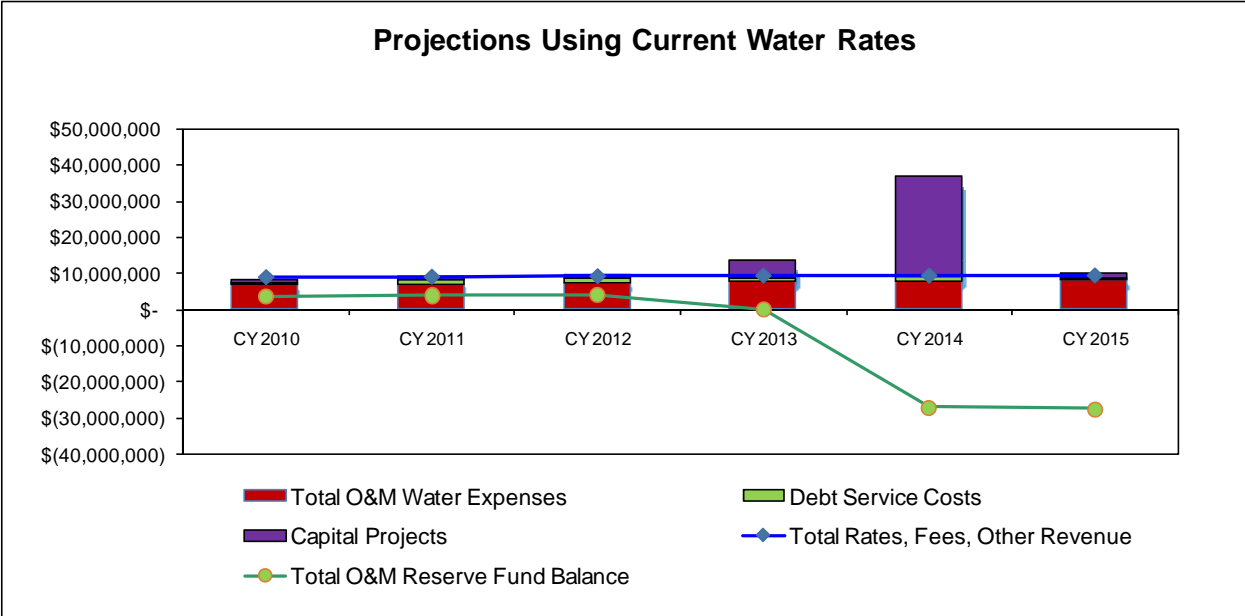
Executive Summary

The District desires rates that fully fund operations, maintenance, and present and future capital costs for new wells, infrastructure rehabilitation, and enhancements. The District is facing several challenges to continuing its water utility operations, including inadequate annual water rate revenues to keep pace with increasing operational, maintenance and major capital costs; and the need to meet water conservation objectives while maintaining a self-funding water utility enterprise fund.

The District retained Willdan Financial Services (Willdan) to prepare a rate study for the water utility to ensure the utility has sufficient revenues to meet their operational, capital and debt service obligations and that rates are set proportionate to the costs of providing utility service to each customer class in compliance with Proposition 218. Therefore, the purpose of the proposed rate study is to provide recommendations on changes to the current utility rate structure to meet these challenges. As part of this rate study, Willdan facilitated dialogue with District staff during conference calls and meetings. During these discussions, the District made recommendations to incorporate into the study where appropriate. This report documents the findings, analyses and recommendations of the comprehensive rate study effort.

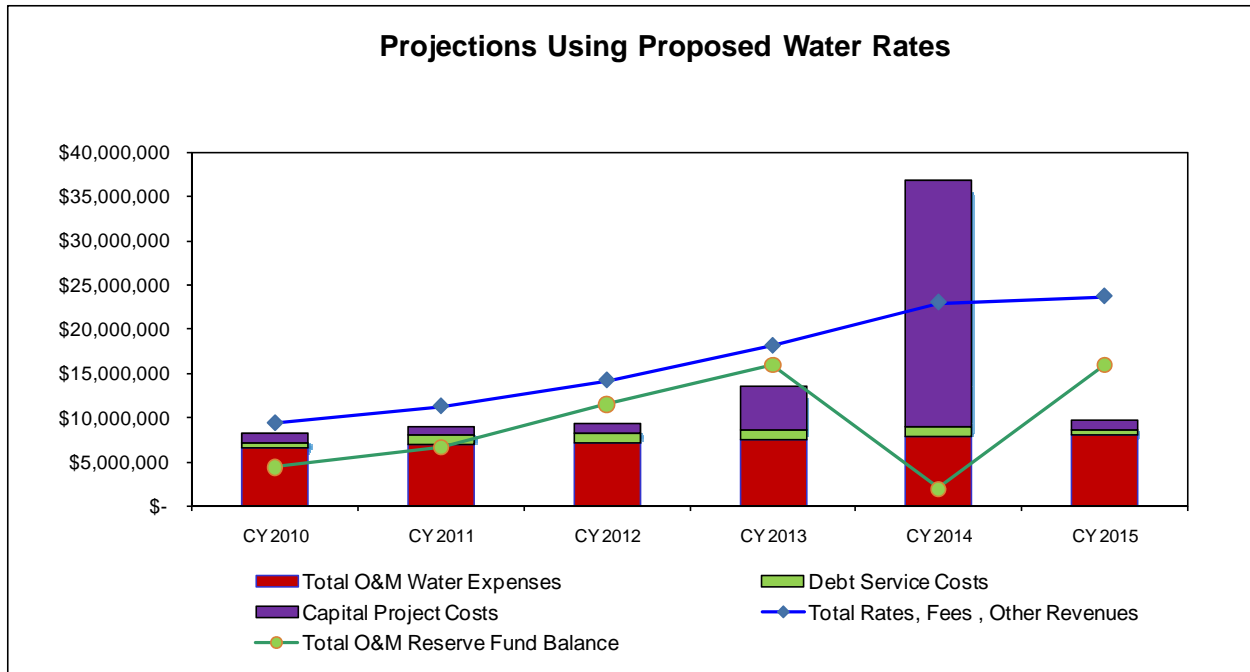
The graph (Figure E-1) below demonstrates the current and projected financial conditions of the water system absent a comprehensive rate restructuring and assuming no rate increases over the next 5 years. As the figure illustrates, holding rate structures and rates constant will result in depleted reserve funds, reduced quality of operations or services, and deferred capital projects that are urgently needed due to aging infrastructure.

Figure E-1: Projection Using Current Water Rates



The graph (Figure E-2) below demonstrates the projected financial condition of the water system assuming adoption of a comprehensive rate restructuring and recommended rate increases over the next 5 years. As the figures illustrate, the proposed rate structure and rate increases will enable the District to continue its operations, establish prudent reserve fund levels, and fund capital projects that are urgently needed through a bond financing.

Figure E-2: Projection Using Proposed Water Rates



The following report provides detail regarding the supporting rate analysis and recommendations.

Project Background

Beaumont-Cherry Valley Water District owns and operates a water system for residents and businesses within Beaumont, Cherry Valley and parts of southeastern Calimesa. As of Calendar Year 2010, the water system provides service to approximately 15,000 residential and non-residential potable water customers. The District operates the water system as a self-supporting enterprise.

The District's responsibilities include water storage and delivery, water resource management, water policy development, and water conservation programs. The District maintains 10 active wells with a system production capacity of 34 million gallons per day. The District receives the majority of its water from groundwater supplies. The remainder of the water the District receives comes from State Water Purchase Program.

The District is currently implementing a major capital improvement program which includes new potable wells, well rehabilitation and pipeline, non-potable wells, completion of the recharge facility, a recycled water connection, reservoir painting and rehabilitation, and distribution & transmission pipeline replacement.

The District is facing several challenges to continuing its water utility operations. Utility revenues are not keeping pace with increasing operational and capital costs. In addition, customer account growth has slowed to a 2.5% annual rate and utility infrastructure is aging and must be replaced or repaired.

Due to the uniform water rate schedule, recent market conditions, and conservation objectives implemented by water purveyors, the current model does not accurately predict the revenue stream required for services provided. The District desires rates that fully fund operations, maintenance, present and future capital costs, and accounts for water conservation goals.

Key Financial Plan Objectives

Several objectives were identified during the study to guide decisions regarding the proposed financial plans and rate structures. The major objectives of the study were:

- Utility rates and fees should generate sufficient revenues to meet operating costs, capital program requirements, debt service obligations, and maintain adequate reserves consistent with sound financial management practices
- Utility rates should be set proportionate to the cost of providing utility service to each customer class to promote fairness and equity and compliance with Proposition 218
- A financial plan that shifts a majority of future capital funding to a debt financing to mitigate the impact on rates that the District's customers pay.
- A financial plan that minimizes the need to continually update the water rate structure
- Conservation objectives of the District to encourage the efficient use of water

- Utility rate and fee structures should be supported by a financial model that is easy to update should costs and assumptions change in the future beyond what was projected at the time of this report

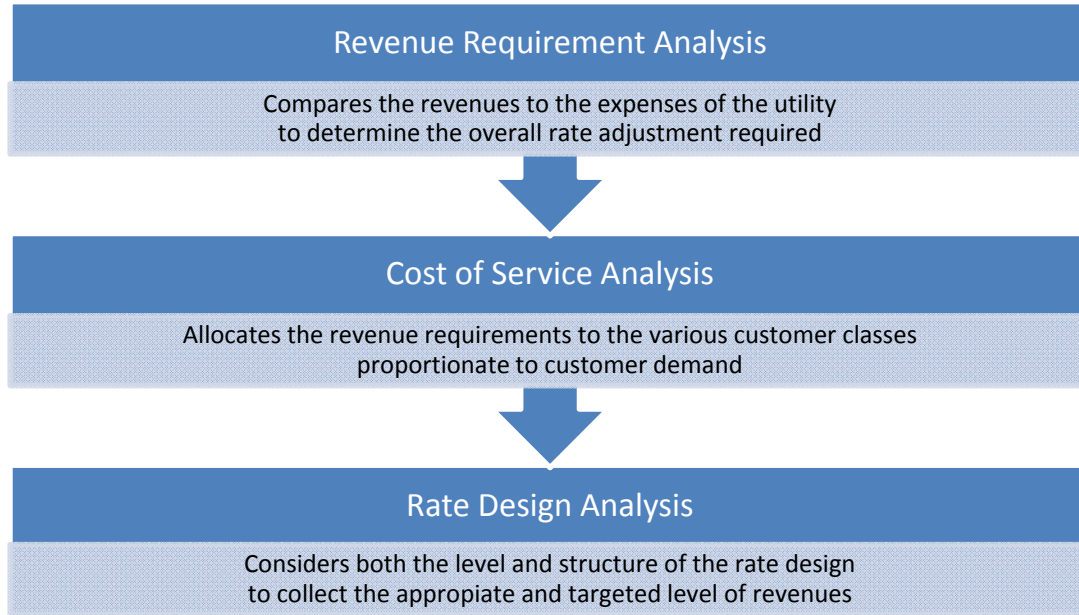
In reviewing the above objectives, it should be noted that the District has limited control over external forces such as growth, consumer behavior, the cost of purchasing water, and system usage. Recognizing these factors, we believe that the recommendations in this study provide a fair, reasonable, and balanced set of proposed rates and fees for the District that, to the extent possible, meets these key objectives.

Overview of the Rate Study Process

The scope of this study included the development of cost-based water user charges through a comprehensive cost of service and rate design analysis. Utility rates must be set at a level where a utility's operating and capital expenses are met with the revenues received from customers. This is a significant point, as failure to achieve this level may lead to insufficient funds being available to appropriately maintain the system. A comprehensive rate study typically consists of following three interrelated analyses (Figure 1-1 provides an overview of these processes).

- **Financial Planning/Revenue Requirement Analysis:** Create a ten-year plan to support an orderly, efficient program of on-going maintenance and operating costs, capital improvement and replacement activities, and retirement of outstanding debt. In addition, the long-term plan should fund and maintain reserve balances to adequate levels based on industry standards and District fiscal policies.
- **Cost of Service Analysis:** Identifies and apportions annual revenue requirements to the different customer classes based on their demand on each utility system.
- **Rate Design:** Develops a fixed/variable schedule of rates for each customer class to proportionately recover the costs attributable to them. This is also, where other policy objectives can be achieved, such as discouraging wasteful water use. The policy objectives are balanced with the cost of service objectives to maintain the delicate balance between customer equity, financial stability and resource conservation goals.

Figure 1-1: Comprehensive Rate Study Interrelated Analysis



Organization of the Report

This report is organized to provide an overview of utility rate setting principles, then a separate detailed review of the rate design process. The following sections comprise the water rate study report:

- Rate Setting Principles
- Water Rate Analysis

Rate Setting Principles

The primary objective of conducting a comprehensive rate study is to determine the adequacy of the existing rates (pricing and structure) and provide the basis for any necessary adjustments to meet the District's operating and capital needs as well as policy objectives, such as water conservation. The District desires rate structures that fully fund operations, maintenance, and present and future capital costs (plant expansions, distribution systems, and collection system rehabilitation, enhancements, or expansion). Furthermore, the District desired to maintain or possibly enhance its current conservation-based rate structure. A tiered rate structure encourages conservation by allocating each customer a consumption allotment based on average usage for which they are charged a base rate per hundred cubic foot (ccf). If an account's consumption exceeds its allotment, then the customer is charged an increased rate (block 2) per ccf for the consumption that falls above the allotment.

Established Principles & Guidelines

Over the past years, many generally accepted principles or guidelines have been established to assist in developing utility rates. The purpose of this section of the report is to provide a general background of the methodology and guidelines used for setting cost based utility rates. This will provide the reader with a higher-level understanding of the general process detailed later in this report.

As a practical matter, there should be a general set of principles to develop rates. The American Water Works Association (AWWA) establishes these principles in the M1 Manual – *Principles of Water Rates, Fees and Charges*. These guiding principles help to ensure there is a consistent global approach that is employed by all utilities in the development of their rates (water and water-related utilities including sewer and reclaimed water).

Below is a summary listing the established guidelines, which public utilities should consider when setting their rates. These closely reflect the District's specified objectives.

- Rates should be cost-based and equitable, and set at a level such that they provide revenue sufficiency.
- Rates and process of allocating costs should conform to generally accepted rate setting techniques.
- Rates should provide reliable, stable and adequate revenue to meets the utility's financial, operation, and regulatory requirements.
- Rate levels should be stable from year to year (limit "rate shocks").
- Rates should be easy to understand and administer.

These guidelines, along with the District's objectives, have been utilized within this study to help develop utility rates that are cost-based and equitable.

Revenue Requirements

The method used by most public utilities to establish their revenue requirements is called the “cash basis” approach of setting rates. As the name implies, a public utility combines its cash expenditures over a period of time to determine their required revenues from user rates and other forms of income. The figure below presents the “cash basis” methodology.

Figure 2-1: Overview of the “Cash Basis” Design

+ Operation and Maintenance Expenses
+ Taxes/Transfers
+ Capital Additions Financed with Rate Revenue
+ Debt Service (Principal and Interest)
= Total Revenue Requirements

To ensure existing ratepayers are not paying for growth-related capital projects, Willdan reviewed existing, approved/pending, and proposed Capital Improvement Projects (CIPs) with District staff to allocate projects between new (growth) and existing customers (operations and maintenance or “O&M”). Additionally, capital replacement expense is sometimes included to stabilize annual required revenue requirements by spreading the replacement costs of a depreciated asset over the expected life of the asset or through the term of bond issue, when municipal bond financing is used.

Based on the revenue requirement analysis, the utility can determine the overall level of rate adjustment needed in order for the utility to meet its overall expenditure needs.

Financial Planning

In the development of the revenue requirements, many assumptions are utilized to project future expenditures, customer and consumption growth, and necessary revenue adjustments. The District’s budget documents are used as the initial starting point; however, assumptions play a necessary role in projecting future required revenue.

Conservative growth assumptions and prudent financial planning are fundamental to ensuring adequate rate revenue to promote financial stability. The financial model developed appropriately considers the District’s existing debt service coverage ratios and operating reserve balances. In addition, as part of the financial planning, municipal bond financing is incorporated into the model to fund repair and replacement cost of depreciated infrastructure and assets. This enables the District to mitigate future rate increases as money for repair and replacement is amortized over a bond term of 20 to 30 years. As debt is redeemed, new bond issues may be utilized to fund additional capital improvements required due to the aging infrastructure.

Rate Design

The final element, the rate design process, applies the results from the revenue requirements to develop rates that achieve the general guidelines and objectives of the District. These objectives may include consideration of cost-based rates, but may also consider items such as ability to pay, continuity of past rate philosophy, conservation, encouragement of economic development, ease of administration, and legal requirements. While cost-based rates are an important objective, all objectives should be balanced appropriately.

While the general description of the utility rate setting process discussed in this section of the report is simplified and condensed, it does address the underlying fundamentals. One of the key principles for a comprehensive rate study is found in economic theory, which suggests the price of a commodity must roughly equal its cost or value if equity among customers is to be maintained – i.e. cost-based. For example, capacity-related costs are usually incurred by a water utility to meet peak use requirements. Consequently, the customers causing peak demands should properly pay for the demand-related facilities in proportion to their contribution to maximum demands. Through refinement of costing and pricing techniques, consumers of a product are given a more accurate price point of what the commodity costs to produce and deliver.

The above fundamentals have considerable foundation in economic literature. They also serve as primary guidelines for Proposition 218 compliance and rate design by most utility regulators and administrative agencies. This “price-equals-cost” theory provides the basis for much of the subsequent analysis and comment. This theory is particularly important as the proposed rate structure has been modified to encourage conservation while maintaining this economic principle.

Rate Setting Principles Summary

This section of the report provides a brief introduction to the general principles, techniques, and economic theory used to set utility rates. These principles, techniques, and economic theory were the starting point for this rate study and the groundwork used to meet the District’s key objectives in analyzing and adjusting their utility rates. When setting utility rates in California we are required to follow the principles of Proposition 218. Below is a brief discussion of Prop 218.

In *Bighorn-Desert View Water Agency v. Verjil*, the California Supreme Court held water agency’s rates were subject to repeal by initiative pursuant to Section 3 of Article XIIC of the California Constitution. Because of the Bighorn decision, water rates in California are now considered property-related fees, therefore the substantive and procedural requirements of California Constitution Articles XIIC and XIID (Proposition 218) apply to water rate setting. Section 6 of Article XIID states:

The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.

This utility rate study was performed to allocate the costs of providing service to users in order to ensure that rates are equitable and not unduly discriminatory, thereby satisfying the Proposition 218 requirements. The total cost of serving each customer class is determined by distributing each of the utility cost components among the user classes based upon the respective service requirements of each customer

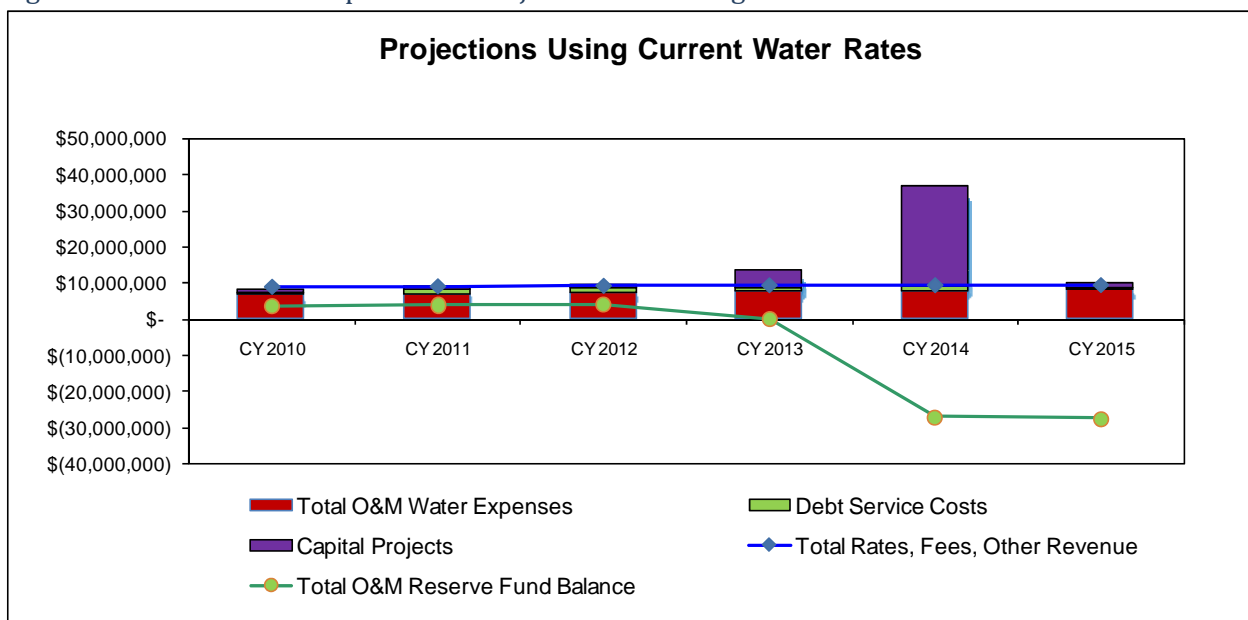
class. Therefore, a true cost of service rate study enables a water utility to adopt rates based on the true costs to each user class. The purposes of this water utility cost of service study include:

- ◆ Proportional allocation of the costs of service to users.
- ◆ Derivation of unit costs to support the development of water rates.

Water Rate Analysis

The District is facing several challenges to continuing its high-quality operations. Utility revenues are not keeping pace with increasing operational and capital costs. In addition, customer account growth has slowed to a 2.5% rate and utility infrastructure is aging and must be replaced or repaired soon. Considering the above variables, Figure 3-1 projects the adequacy of existing rate revenue to support ongoing operations and maintenance.

Figure 3-1: Revenue and Expenditure Projections – Existing Rates



As the above figure indicates, revenue increases are necessary to operate and maintain the water system. This will be evident as details of the process, data, and methodology utilized in the rate study are presented in this section of the report. Summary figures, outlining much of the analysis are included in this section of the report as well.

Customer Statistics

During the calendar Year 2009, the District provided water service to an estimated 15,000 customers, distributing roughly 5.27 million hundred cubic feet (~13,700 acre feet) of potable water. Figure 3-2 shows the District's projected water usage and number of accounts by customer class.

Figure 3-2: Accounts and Consumption

Description	Projected Water Consumption (ccf)					
	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic	3,524,727	3,612,846	3,703,167	3,795,746	3,890,640	3,987,906
Multiple Family	157,141	161,069	165,096	169,223	173,454	177,790
Commercial/Fire Service	424,669	435,285	446,168	457,322	468,755	480,474
Multiple Commercial	39,268	40,249	41,256	42,287	43,344	44,428
Landscape	980,886	1,005,408	1,030,543	1,056,307	1,082,715	1,109,783
Agriculture	54,957	56,331	57,740	59,183	60,663	62,179
Construction Water	<u>90,506</u>	<u>92,769</u>	<u>95,088</u>	<u>97,466</u>	<u>99,902</u>	<u>102,400</u>
Total Water Utility Consumption	5,272,155	5,403,959	5,539,057	5,677,534	5,819,472	5,964,959
	Percent of Total					
Domestic	66.9%	66.9%	66.9%	66.9%	66.9%	66.9%
Multiple Family	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Commercial/Fire Service	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%
Multiple Commercial	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
Landscape	18.6%	18.6%	18.6%	18.6%	18.6%	18.6%
Agriculture	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Construction Water	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>
Total Water Utility Consumption	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sources: Beaumont-Cherry Valley Water District.

A projection of customers, usage, and production requirements is necessary in the evaluation of the revenue requirements. This projection is critical for the determination of revenues from rates, escalation of production-related costs, and design of the rates.

Given the current economic climate and review of potential growth, Willdan in conjunction with District staff determined to use a conservative growth rate equal to 2.5%.

Revenue Requirements Analysis

Revenue from Existing Rates

The first step in developing the revenue requirements is to develop a projection of revenues from existing rates. The District expects to receive approximately \$6.1 million in water sales in Calendar Year 2010. By 2020, assuming the growth discussed above, water sales are projected to increase roughly 25% to \$7.6 million. In addition to water sales, the District has a projected average of non-operating revenues approximately equal to two hundred thousand dollars, consisting of interest income.

Projections of Operation and Maintenance Expenses

To project Operating and Maintenance (O&M) expenses over the five-year planning horizon, two escalation factors were developed. The operations cost escalator, set at 4.00%, is applied to basic expenditures that the District incurs: labor, benefits, materials, utilities, etc. The Personnel cost escalator is set at 4.0%. In order for the District to maintain a stable Operating Reserve, Emergency Reserve, Rate Stabilization Reserve and Capital Recovery Reserve: Per the District’s recommendation, the District should, depending upon the current year circumstances, have at least a one-year reserve of spendable resources equal to that year’s total operating expenses including depreciation. If total operating expenses plus depreciation expense equals \$10.0 million, then the spendable net assets reserve should be \$10.0 million.

Debt Service

The District does not currently have long-term debt. Figure 3-3 illustrates the amount of projected debt service for both the current capital projects and the major capital improvements. The District plans on paying for the current capital projects in the amount of five million by financing them via a five-year loan with a rate of 3.38%.

Figure 3-3 provides a summary of the District’s water related projected debt service.

Figure 3-3: Projected Debt Service

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<u>Debt Service</u>						
Proposed Loan Payment (Current CIP)	554,969	1,090,256	1,097,977	1,094,430	1,094,870	544,042
Total Debt Service	\$ 554,969	\$ 1,090,256	\$ 1,097,977	\$ 1,094,430	\$ 1,094,870	\$ 544,042

Sources: Beaumont-Cherry Valley Water District, Willdan Financial Services.

Capital Improvement Projects

The District's Capital Improvement Program (CIP) needs for the water utility are summarized in Figure 3-4. Individually, each project was identified by District staff as growth-related, existing needs (O&M) or a percentage of both to determine the appropriate funding mechanism (bi-monthly rates or connection fee). The capital projects are required to meet the utilities projected growth and to maintain the existing quality of the system.

Figure 3-4: Water Capital Projects

% Allocated to Existing Customers	Project Name/Description	Funding Source	Projected				Current 2010-15
			2012	2013	2014	2015	
<u>Production/Conservation</u>							
100%	Beaumont Basin New Water Well	Water Rates		3,375,000			\$ 3,375,000
100%	Singleton Basin New Well	Water Rates			1,802,000		1,802,000
100%	Completion of the Stormwater Capture Project incl Phase 3 of the Recharge Facility	Water Rates			10,757,000		10,757,000
100%	Sundance Stormwater Recovery Project	Water Rates					0
100%	Noble Creek Rubber Dam Project	Water Rates			1,620,000		1,620,000
100%	Secondary Recycled Water Connection	Water Rates			7,620,000		7,620,000
100%	Highland Springs Reservoir Painting and Rehabilitation	Depreciation	177,000				177,000
100%	Distribution and Transmission Pipeline Replacement	Depreciation				3,277,000	3,277,000
100%	GIS and GPS Equipment Upgrades	Depreciation	47,000				47,000
Total Cost in CY 2010 Dollars (CIP funded by Water Rates).			\$ -	\$ 3,375,000	\$ 21,799,000	\$ -	\$ 25,174,000
Total Cost in CY 2010 Dollars (R&R Projects Funded by depreciation)			\$ 224,000	\$ -	\$ -	\$ 3,277,000	
Total Construction cost estimates escalated annually by PPI (CIP funded by Water Rates).			\$ -	\$ 3,980,220	\$ 26,790,340		\$ 30,770,560
Total Construction cost estimates escalated annually by PPI (R&R Projects Funded by depreciation)			\$ 253,497	\$ -	\$ -	\$ 4,196,879	\$ 4,450,376

Notes:

Construction cost estimates were escalated annually by a factor of 4.21% based on the average annual increase between 2004 and 2009 in Engineering News Record Construction Cost Index.

Sources: Beaumont-Cherry Valley Water District; Engineering News Record's Construction Cost Index; Willdan Financial Services.

Summary of Revenue Requirements Analysis

The above components comprise the foundation of the revenue requirement analysis. During the discussions with the District, District staff made recommendations to assure the accuracy of financial and growth variables used in developing the revenue requirement analysis. Particular emphasis was placed on attempting to minimize rates, yet still encompass adequate funds to support the operational activities and capital projects throughout the study period.

The revenue requirements analysis figure, presented below, provides a basis for evaluating the timing and level of water revenue increases required to meet the projected required revenue for the study period. The percentages shown at the bottom of the figure show the recommended revenue adjustments.

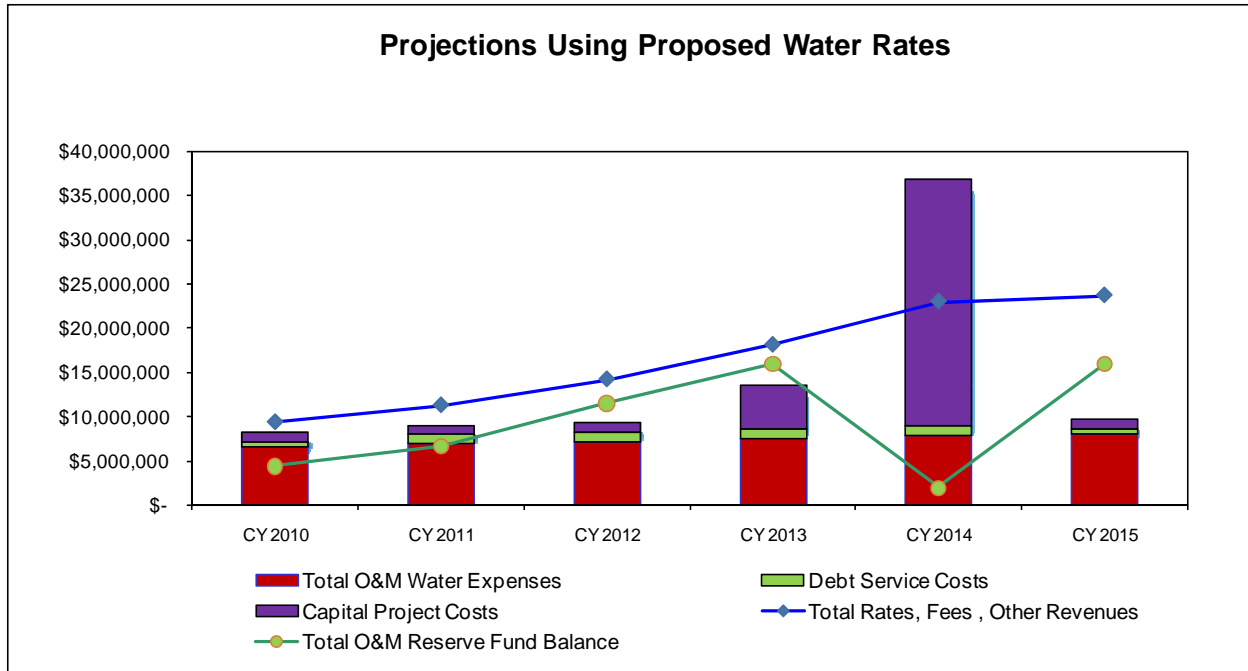
Figure 3-5: Revenue Requirements

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Operating Revenue						
1 Water Sales	\$ 6,092,979	\$ 6,245,303	\$ 6,401,436	\$ 6,561,472	\$ 6,725,509	\$ 6,893,646
2 Service Connections	2,635,501	2,701,389	2,768,923	2,838,146	2,909,100	2,981,827
3 Reimbursements (Development & Inspection)	60,000	61,500	63,038	64,613	66,229	67,884
4 Other	148,200	151,905	155,703	159,595	163,585	167,675
5 Total Operating Revenue	\$ 8,936,680	\$ 9,160,097	\$ 9,389,099	\$ 9,623,827	\$ 9,864,423	\$ 10,111,033
Additional Revenue Required						
7 Year	Revenue Increase	Months Effective				
8 CY 2010	15.00%	6	456,973	936,796	960,215	984,221
9 CY 2011	15.00%	12	-	1,077,315	1,104,248	1,131,854
10 CY 2012	30.00%	12	-	-	2,539,770	2,603,264
11 CY 2013	30.00%	12	-	-	-	3,384,243
12 CY 2014	30.00%	12	-	-	-	4,509,504
13 CY 2015	0.00%	12	-	-	-	-
14 CY 2016	0.00%	12	-	-	-	-
15 CY 2017	0.00%	12	-	-	-	-
16 CY 2018	0.00%	12	-	-	-	-
17 CY 2019	0.00%	12	-	-	-	-
18 Total Additional Operating Revenue	456,973	2,014,110	4,604,233	8,103,582	12,815,676	13,136,067
19 Total Required Revenue	\$ 9,393,653	\$ 11,174,207	\$ 13,993,332	\$ 17,727,409	\$ 22,680,098	\$ 23,247,101
Applications of Operating Funds						
<u>Operating Expenses</u>						
22 Source of Supply	\$ 3,071,820	\$ 3,194,693	\$ 3,322,481	\$ 3,455,380	\$ 3,593,595	\$ 3,737,339
23 Transmission & Distribution	938,700	976,248	1,015,298	1,055,910	1,098,146	1,142,072
24 Customer Service & Meter Reading	183,400	190,736	198,365	206,300	214,552	223,134
25 General Administration	1,818,300	1,891,032	1,966,673	2,045,340	2,127,154	2,212,240
26 Maintenance & General Plant	393,400	409,136	425,501	442,521	460,222	478,631
27 Engineering (In-House)	112,012	116,492	121,152	125,998	131,038	136,280
28 Professional Services	290,000	301,600	313,664	326,211	339,259	352,829
29 Total Operating Expenses	\$ 6,807,632	\$ 7,079,937	\$ 7,363,135	\$ 7,657,660	\$ 7,963,967	\$ 8,282,525
30 Net Operating Income (Loss)	\$ 2,586,021	\$ 4,094,270	\$ 6,630,198	\$ 10,069,749	\$ 14,716,132	\$ 14,964,575
<u>Debt Service</u>						
32 Proposed Loan Payment (Current CIP)	554,969	1,090,256	1,097,977	1,094,430	1,094,870	544,042
33 Proposed Bond Issue (Major CIP)	-	-	-	-	-	-
34 Total Debt Service	\$ 554,969	\$ 1,090,256	\$ 1,097,977	\$ 1,094,430	\$ 1,094,870	\$ 544,042
35 Coverage Ratio	4.81	3.94	6.30	9.59	13.74	28.34
Non-Operating Revenue (Expenses)						
37 Miscellaneous expense	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)
38 Investment income	86,021	202,360	286,804	423,906	330,963	451,832
39 Total Non-Operating Revenue (Expenses)	\$ 77,839	\$ 194,178	\$ 278,622	\$ 415,724	\$ 322,781	\$ 443,650
Capital Project Expenses						
41 CIP Program	\$ -	\$ -	\$ -	\$ 3,980,220	\$ 26,790,340	\$ -
42 Repair & Replacement Reserve (Depreciation)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
43 Rate Funded Capital Projects	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 4,980,220	\$ 27,790,340	\$ 1,000,000
44 Net Income (Loss)	\$ 1,108,891	\$ 2,198,192	\$ 4,810,843	\$ 4,410,823	\$ (13,846,297)	\$ 13,864,183
45 Operating Reserve Fund Balance Met?	-	-	-	-	Target Balance Not	-
Fund Information						
Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Operating & Maintenance Fund						
49 Beginning Operating Fund Balance	\$ 3,386,403	\$ 4,495,294	\$ 6,693,486	\$ 11,504,329	\$ 15,915,152	\$ 2,068,855
50 Deposit (Withdrawals)	1,108,891	2,198,192	4,810,843	4,410,823	(13,846,297)	13,864,183
51 Subtotal O&M Fund Balance	\$ 4,495,294	\$ 6,693,486	\$ 11,504,329	\$ 15,915,152	\$ 2,068,855	\$ 15,933,038
52 Fund Balance Days of O&M	180	180	180	180	180	180
53 Recommended Reserve Balance	3,357,188	3,491,476	3,631,135	3,776,380	3,927,436	4,084,533
54 Excess O&M	-	-	-	-	-	11,848,505
55 Total O&M Fund Balance	\$ 4,495,294	\$ 6,693,486	\$ 11,504,329	\$ 15,915,152	\$ 2,068,855	\$ 4,084,533
Repair and Replacement Reserve Fund						
57 Beginning Operating Fund Balance	\$ -	\$ 1,000,000	\$ 2,000,000	\$ 2,746,503	\$ 3,746,503	\$ 4,746,503
58 Deposit	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
59 Withdrawals	-	-	(253,497)	-	-	(4,196,879)
60 Excess O&M	-	-	-	-	-	11,848,505
61 Total R&R Fund Balance	\$ 1,000,000	\$ 2,000,000	\$ 2,746,503	\$ 3,746,503	\$ 4,746,503	\$ 13,398,129

Sources: Beaumont-Cherry Valley Water District, Willdan Financial Services.

Based upon the revenue requirement analysis, the District will need to adjust the rates to increase revenue by 15% for the remaining six months of calendar year 2010, followed by a 15% increase in revenues in calendar year 2011, followed by a 30% increase in calendar years 2012, 2013, and 2014. This approach will result in a 191% revenue increase over the next five years. Figure 3-6 expands upon the earlier figure (Figure 3-1), to illustrate the positive impact of the revenue increase on the utility's financial condition.

Figure 3-6: Revenue and Expenditure Projections – Proposed Rates



Cost of Service Analysis

The cost of service analysis is a systematic process by which revenue requirements are used to generate a classification of fair and equitable costs in proportion to the service received for each user class.

Cost Allocation by Function

The cost of service allocation conducted in this study is established on the base-extra capacity method endorsed by the AWWA. Under the base-extra capacity method, revenue requirements are allocated to the different user classes proportionate to their use on the water system. Allocations are based on average day (base) usage, maximum day (peak) usage, meters and services, billing and collection, and fire protection. Use of this methodology results in an AWWA-accepted cost distribution among customer classes and a means of calculating and designing rates to proportionately recover those costs.

Figure 3-7 classifies the major functions of the water system and allocates those related costs to the demand factors average day (base), maximum day (peak) usage, meters and services, and customer accounts.

Figure 3-7: Classification of Water Expenses by Function

Description	Total Revenue Requirement	Extra Capacity		Customer Costs		Meters & Services	Basis of Classification
		Base	Max Day	Customer Billing			
SOURCE OF SUPPLY							
Labor and Admin Source of Supply	\$ 961,809	\$ 961,809	\$ -	\$ -	\$ -	-	100% Base
Water and Utility Cost - Source of Supply	\$ 144	\$ 96	\$ 48	\$ -	\$ -	-	Avg/Max Day
Total Source of Supply	\$ 961,953	\$ 961,905	\$ 48	\$ -	\$ -	-	
MAINTENANCE & GENERAL PLANT							
Maintenance & General Plant	\$ 472,320	\$ 472,320	\$ -	\$ -	\$ -	-	100% Base
Total Maintenance & General Plant	\$ 472,320	\$ 472,320	\$ -	\$ -	\$ -	-	
TRANSMISSION & DISTRIBUTION							
Transmission & Distribution	\$ 1,127,013	\$ 375,671	\$ 375,671	\$ -	\$ 375,671	375,671	33% Base/Max/Meters
Total Transmission & Distribution	\$ 1,127,013	\$ 375,671	\$ 375,671	\$ -	\$ 375,671	375,671	
CUSTOMER COSTS							
Customer Service & Meter Reading	\$ 220,192	\$ -	\$ -	\$ 110,096	\$ 110,096	110,096	50% fixed
Total Customer Costs	\$ 220,192	\$ -	\$ -	\$ 110,096	\$ 110,096	110,096	
Total O & M (\$)	\$ 2,781,479	\$ 1,809,897	\$ 375,719	\$ 110,096	\$ 485,767	485,767	
Total O & M (%)	100.00%	65.07%	13.51%	3.96%	17.46%		
GENERAL & ADMINISTRATIVE							
General Administration	\$ 2,183,070	\$ 545,768	\$ 545,768	\$ 545,768	\$ 545,768	545,768	25% across
Engineering (In-House)	134,483	33,621	33,621	33,621	33,621	33,621	25% across
Professional Services	348,177	87,044	87,044	87,044	87,044	87,044	25% across
Total General and Administrative	\$ 2,665,730	\$ 666,433	\$ 666,433	\$ 666,433	\$ 666,433	666,433	
REVENUE-FUNDED CAPITAL PROGRAMS							
Rate Funded Capital Projects	\$ 4,077,056	\$ 1,359,019	\$ 1,359,019	\$ -	\$ 1,359,019	1,359,019	33% Base/Max/Meters
Total Capital Project Costs	\$ 4,077,056	\$ 1,359,019	\$ 1,359,019	\$ -	\$ 1,359,019	1,359,019	
DEBT SERVICE							
Loan Payment	\$ 547,654	\$ 136,914	\$ 136,914	\$ 136,914	\$ 136,914	136,914	25% across
Total Debt Service	\$ 547,654	\$ 136,914	\$ 136,914	\$ 136,914	\$ 136,914	136,914	
TOTAL FUNCTIONALIZED COSTS	\$ 10,071,919	\$ 3,972,261	\$ 2,538,084	\$ 913,442	\$ 2,648,132		
FUNCTIONALIZATION FACTOR	100.00%	39.44%	25.20%	9.07%	26.29%		

Sources: Beaumont-Cherry Valley Water District

The resulting functionalization factors that appear at the bottom of Figure 3-7 are utilized to allocate system operating and capital costs to each customer class based on the each class' demand on the system.

Rate Design Balance

There is some flexibility in the design of the rate structure to meet the District's rate setting objectives while being consistent with cost of service principles and conservation objectives. There are positives and negatives associated with the decrease in fixed revenue. Typically, a larger percentage of fixed rate revenue results in greater revenue stability since a greater percentage of total revenues are not influenced by fluctuations in consumption due to the weather, household density, and abusive water use. At the same

time, the decrease in fixed revenue will improve equitability concerning cost recovery and the impact of conservation measures while reducing revenue stability, as users have greater control over their consumption and ultimately their bill. The fixed portion of the proposed water rates generates an estimated 35% of total rate revenue.

Rate Design Analysis

The final step of the rate study is the design of the water rates to collect the desired level of revenue determined in the revenue requirement analysis, while encouraging the efficient use of water. During this analysis, consideration is given to both the level of rates and the structure of the rates. This section reviews the proposed water rate design for the District. The District requested Willdan develop two rate structures one of which incorporates the costs of State Project Water Costs and SCE Power costs into the consumption rate. The second rate structure resembles the District's current rate structure which includes a separate SCE Power Charge and State Project Water Cost Charge.

Criteria and Considerations

In determining the appropriate rate level and structure, Willdan, in conjunction with District staff, analyzed various generated financial scenarios concerning the proposed adjustments and the implications attributed to those decisions.

A simplified list of some of the design considerations that were reviewed is listed:

- Consideration of the customer's ability to pay
- Clear and understandable rates
- Easily administered
- Conservation measures
- Revenue stability (month to month and year to year)
- Efficient allocation of resources
- Capital Improvement Financing (improving the existing system)
- Fair and equitable (cost-based) rates

Every consideration has merit and plays an important role in a comprehensive rate study. When developing the District's proposed rates all of the aforementioned criteria were taken into consideration. Determining the appropriate balance is crucial, as some of the criteria sometime conflict with one another, i.e. the customers ability to pay and cost-based. In designing rates, there will always be a balance between the various objectives; however, we attempt to ensure the proposed rates meet all of the leading objectives of the District.

Overview of Existing Rate Structure

The District has a fixed meter charge, an uniform consumption rate structure, a separate SCE Power Charge, a State Project Water Costs Charge and Private Fire Service Standby Charges. The District's Existing water rate structure, shown in Figure 3-8 currently employs an uniform rate structure as outlined in Figure 3-8. Figure 3-9 details the SCE Power Charge and State Project Water Costs Charge. All customer classes are charged a fixed bi-monthly fee based on meter size as shown in Figure 3-10. Figure 3-11 details the District's current private fire service charges.

Figure 3-8: Existing Rate Structure for all Customer Classes

<u>Description (Customer Class)</u>	<u>Current Rates</u>
Domestic Rate	.84 per ccf
Scheduled Irrigation Rate	.47 per ccf
Multiple Family Rate	.84 per ccf
Commercial Rate	.84 per ccf
Multiple Commercial Rate	.84 per ccf
Outside Service Rate	1.68 per ccf
Construction Water Rate	1.61 per ccf

Sources: Beaumont-Cherry Valley Water District.

Figure 3-9: Existing SCE Power Charge and State Project Water Costs Charge

SCE Power Charge - Not to exceed \$0.25 per ccf.
State Project Water Cost Charge - Not to exceed \$0.24 per ccf.

Sources: Beaumont-Cherry Valley Water District.

Figure 3-10: Existing Bi-Monthly Fixed Meter Charge

Description (Meter Size)	Current Rates
5/8"	\$ 12.00
3/4"	17.25
1"	28.00
1-1/2"	54.00
2"	85.00
3"	158.00
4"	262.00
6"	5,522.00
8"	834.00
10"	1,198.00
12"	2,238.00

Sources: Beaumont-Cherry Valley Water District.

Figure 3-11: Existing Private Fire Service Charges

Description (Meter Size)	Current Rates
4"	\$ 56.00
6"	162.00
8"	345.00
10"	619.00
12"	1,000.00

Sources: Beaumont-Cherry Valley Water District.

Proposed Rate Adjustments

Conservation

In addition to a cost-based approach, a secondary objective of the District is to encourage water conservation through design and implementation of the new rate and structure. Beyond the revenue adjustments established in the required revenue analysis and the allocation of cost determined in the cost of service analysis, Willdan and the District discussed changes to the rate structure (tiers) and consumption levels of the blocks (tiers). The proposed consumption blocks, tiers, enable the District to encourage conservation, while reducing the burden on those already conserving. By matching the consumption blocks to consumption levels, The District should be able to achieve their conservation goals.

Figure 3-12 and Figure 3-13, below, outlines the proposed changes to the existing water rate structure, which includes State Project Water Costs. Figure 3-14, Figure 3-15, and Figure 3-16, below, outlines the proposed changes to the existing water rate structure in which the State Project Water Costs and SCE

Power Costs will be recovered through direct surcharges. The policy of the District is to charge customers outside District boundaries an amount that is twice the rate stated in the figures below.

Figure 3-12: Domestic Tier Changes (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 2,841,073	\$ 3,379,595	\$ 4,232,228	\$ 5,361,585	\$ 6,859,506	\$ 7,030,994
Total Base Consumption (ccf)	<u>2,349,818</u>	<u>2,408,564</u>	<u>2,468,778</u>	<u>2,530,497</u>	<u>2,593,760</u>	<u>2,658,604</u>
Rate per ccf	\$ 1.21	\$ 1.40	\$ 1.71	\$ 2.12	\$ 2.64	\$ 2.64
Allocated Share of Peaking Costs	\$ 1,549,348	\$ 1,843,025	\$ 2,307,999	\$ 2,923,881	\$ 3,740,756	\$ 3,834,275
Total Consumption (ccf)	<u>1,174,909</u>	<u>1,204,282</u>	<u>1,234,389</u>	<u>1,265,249</u>	<u>1,296,880</u>	<u>1,329,302</u>
Cost per ccf	\$ 1.32	\$ 1.53	\$ 1.87	\$ 2.31	\$ 2.88	\$ 2.88
Block 1 Rate per ccf (0-44 ccf)	\$ 1.21	\$ 1.40	\$ 1.71	\$ 2.12	\$ 2.64	\$ 2.64
Block 2 Rate per ccf (45+ ccf)	\$ 1.32	\$ 1.53	\$ 1.87	\$ 2.31	\$ 2.88	\$ 2.88

Sources: Beaumont-Cherry Valley Water District.

Figure 3-13: Multi-Family Residential Tier Changes (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 126,662	\$ 150,670	\$ 188,683	\$ 239,032	\$ 305,813	\$ 313,458
Total Consumption (ccf)	<u>\$ 104,760</u>	<u>\$ 107,379</u>	<u>\$ 110,064</u>	<u>\$ 112,816</u>	<u>\$ 115,636</u>	<u>\$ 118,527</u>
Rate per ccf	\$ 1.21	\$ 1.40	\$ 1.71	\$ 2.12	\$ 2.64	\$ 2.64
Allocated Share of Peaking Costs	\$ 64,281	\$ 76,466	\$ 95,757	\$ 121,310	\$ 155,201	\$ 159,082
Total Consumption (ccf)	<u>52,380</u>	<u>53,690</u>	<u>55,032</u>	<u>56,408</u>	<u>57,818</u>	<u>59,263</u>
Cost per ccf	\$ 1.23	\$ 1.42	\$ 1.74	\$ 2.15	\$ 2.68	\$ 2.68
Block 1 Rate per ccf (0-35 ccf per unit)	\$ 1.21	\$ 1.40	\$ 1.71	\$ 2.12	\$ 2.64	\$ 2.64
Block 2 Rate per ccf (36+ ccf per unit)	\$ 1.23	\$ 1.42	\$ 1.74	\$ 2.15	\$ 2.68	\$ 2.68

Sources: Beaumont-Cherry Valley Water District.

Figure 3-14: Domestic Tier Changes (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 1,835,926	\$ 2,289,385	\$ 3,016,284	\$ 3,984,019	\$ 5,272,647	\$ 5,404,463
Total Base Consumption (ccf)	<u>2,349,818</u>	<u>2,408,564</u>	<u>2,468,778</u>	<u>2,530,497</u>	<u>2,593,760</u>	<u>2,658,604</u>
Rate per ccf	\$ 0.78	\$ 0.95	\$ 1.22	\$ 1.57	\$ 2.03	\$ 2.03
Allocated Share of Peaking Costs	\$ 1,074,556	\$ 1,339,963	\$ 1,765,412	\$ 2,331,821	\$ 3,086,047	\$ 3,163,198
Total Consumption (ccf)	<u>1,174,909</u>	<u>1,204,282</u>	<u>1,234,389</u>	<u>1,265,249</u>	<u>1,296,880</u>	<u>1,329,302</u>
Cost per ccf	\$ 0.91	\$ 1.11	\$ 1.43	\$ 1.84	\$ 2.38	\$ 2.38
Block 1 Rate per ccf (0-44 ccf)	\$ 0.78	\$ 0.95	\$ 1.22	\$ 1.57	\$ 2.03	\$ 2.03
Block 2 Rate per ccf (45+ ccf)	\$ 0.91	\$ 1.11	\$ 1.43	\$ 1.84	\$ 2.38	\$ 2.38

Sources: Beaumont-Cherry Valley Water District.

Figure 3-15: Multi-Family Residential Bi-Monthly Tier Changes (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 81,850	\$ 102,066	\$ 134,473	\$ 177,617	\$ 235,067	\$ 240,944
Total Consumption (ccf)	104,760	107,379	110,064	112,816	115,636	118,527
Rate per ccf	\$ 0.78	\$ 0.95	\$ 1.22	\$ 1.57	\$ 2.03	\$ 2.03
Allocated Share of Peaking Costs	\$ 44,583	\$ 55,594	\$ 73,246	\$ 96,746	\$ 128,038	\$ 131,239
Total Consumption (ccf)	52,380	53,690	55,032	56,408	57,818	59,263
Cost per ccf	\$ 0.85	\$ 1.04	\$ 1.33	\$ 1.72	\$ 2.21	\$ 2.21
Block 1 Rate per ccf (0-35 ccf per unit)	\$ 0.78	\$ 0.95	\$ 1.22	\$ 1.57	\$ 2.03	\$ 2.03
Block 2 Rate per ccf (36+ ccf per unit)	\$ 0.85	\$ 1.04	\$ 1.33	\$ 1.72	\$ 2.21	\$ 2.21

Sources: Beaumont-Cherry Valley Water District.

Figure 3-16: Proposed State Project Water and SCE Power Charges

	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<i>PASS THROUGH SURCHARGES</i>						
Electric Power Costs	\$ 1,700,000	\$ 1,768,000	\$ 1,838,720	\$ 1,912,269	\$ 1,988,760	\$ 2,068,310
Total Water Utility Consumption	5,272,155	5,403,959	5,539,057	5,677,534	5,819,472	5,964,959
SCE Power Charge per ccf	\$ 0.32	\$ 0.33	\$ 0.33	\$ 0.34	\$ 0.34	\$ 0.35
State Project Water Costs	\$ 570,600	\$ 593,424	\$ 617,161	\$ 641,847	\$ 667,521	\$ 694,222
Total Water Utility Consumption (ccf)	5,272,155	5,403,959	5,539,057	5,677,534	5,819,472	5,964,959
State Project Water Costs per ccf	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12

Sources: Beaumont-Cherry Valley Water District.

Summary of Water Rate Study

Throughout the process of the water rate study, many renditions and scenarios were considered. Presented below is the culmination of numerous analyses and discussions. Figure 3-17 summarizes the proposed bi-monthly private fire service charges by meter size as designed in this study. Figures 3-18 and 3-19 recap the proposed bi-monthly fixed base charge rate for each rate structure and Figure 3-20 & Figure 3-21 summarizes the variable charges for each rate structure by customer class as designed in this study.

Figure 3-17: Bi-Monthly Private Fire Service Charges

	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Total Annual Fire Service Costs	\$ 95,000	\$ 98,800	\$ 102,752	\$ 106,862	\$ 111,137	\$ 115,582
Number of Equivalent Connections	14,244	14,244	14,244	14,244	14,244	14,244
Charge per equivalent	\$ 6.67	\$ 6.94	\$ 7.21	\$ 7.50	\$ 7.80	\$ 8.11
Bi-Monthly Charge per equivalent	\$ 1.11	\$ 1.16	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35

Meter Size	Demand Factor ¹	Standby Fees - Minimum Bi-Monthly Charge					
1"	1.00	1.11	1.16	1.20	1.25	1.30	1.35
2"	6.19	6.88	7.16	7.44	7.74	8.05	8.37
4"	38.32	42.59	44.30	46.07	47.91	49.83	51.82
6"	111.31	123.73	128.68	133.82	139.18	144.74	150.53
8"	237.21	263.67	274.21	285.18	296.59	308.45	320.79
10"	426.58	474.16	493.13	512.85	533.37	554.70	576.89
12"	689.04	765.90	796.54	828.40	861.54	896.00	931.84

¹ Demand factors based on nominal size of connection raised to the 2.63 power. The demand factors are based on AWWA standards for allocating service costs to public and private fire accounts.

Sources: Beaumont-Cherry Valley Water District; Willdan Financial Services; American Water Works Association (AWWA)

Figure 3-18: Bi-Monthly Fixed Meter Charges (State Project Water Costs & Power Costs Included)

	Current Rates	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<u>BI-MONTHLY METER CHARGE</u>							
Total Meter Related Costs	\$ 1,984,248	\$ 2,614,168	\$ 3,109,680	\$ 3,894,217	\$ 4,933,376	\$ 6,311,665	\$ 6,469,456
Number of Equivalent Meters	27,559	27,559	28,248	28,954	29,678	30,420	31,180
Bi-Monthly Meter Charge per 5/8" Meter	\$ 12.00	\$ 15.81	\$ 18.35	\$ 22.42	\$ 27.71	\$ 34.58	\$ 34.58
Meter Size	Equivalent Meter Factor	Bi-Monthly Meter Charge					
5/8"	1.00	12.00	15.81	18.35	22.42	27.71	34.58
3/4"	1.50	17.25	23.72	27.52	33.62	41.56	51.87
1"	2.50	28.00	39.53	45.87	56.04	69.26	86.45
1 1/2"	5.00	54.00	79.05	91.74	112.08	138.53	172.91
2"	8.00	85.00	126.48	146.78	179.33	221.64	276.65
3"	16.00	159.00	252.96	293.57	358.66	443.28	553.30
4"	25.00	262.00	395.25	458.70	560.40	692.63	864.53
6"	50.00	522.00	790.50	917.40	1,120.80	1,385.25	1,729.05
8"	80.00	834.00	1,264.80	1,467.84	1,793.28	2,216.40	2,766.48
10"	115.00	1,198.00	1,818.15	2,110.02	2,577.84	3,186.08	3,976.82
12"	155.00	2,238.00	2,450.55	2,843.94	3,474.48	4,294.28	5,360.06

Sources: Beaumont-Cherry Valley Water District.

Figure 3-19: Bi-Monthly Fixed Meter Charges(State Project Water Costs & Power Costs Not Included)

	Current Rates	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015	
<u>BI-MONTHLY METER CHARGE</u>								
Total Meter Related Costs	\$ 1,984,248	\$ 2,462,192	\$ 3,070,333	\$ 4,045,190	\$ 5,343,037	\$ 7,071,237	\$ 7,248,018	
Number of Equivalent Meters	27,559	27,559	28,248	28,954	29,678	30,420	31,180	
Bi-Monthly Meter Charge per 5/8" Meter	\$ 12.00	\$ 14.89	\$ 18.12	\$ 23.29	\$ 30.01	\$ 38.74	\$ 38.74	
Meter Size	Equivalent Meter Factor	Bi-Monthly Meter Charge						
5/8"	1.00	12.00	14.89	18.12	23.29	30.01	38.74	38.74
3/4"	1.50	17.25	22.34	27.17	34.93	45.01	58.11	58.11
1"	2.50	28.00	37.23	45.29	58.22	75.02	96.86	96.86
1 1/2"	5.00	54.00	74.46	90.58	116.43	150.03	193.72	193.72
2"	8.00	85.00	119.13	144.93	186.29	240.05	309.94	309.94
3"	16.00	159.00	238.26	289.86	372.58	480.10	619.89	619.89
4"	25.00	262.00	372.28	452.90	582.15	750.15	968.58	968.58
6"	50.00	522.00	744.55	905.80	1,164.30	1,500.30	1,937.15	1,937.15
8"	80.00	834.00	1,191.28	1,449.28	1,862.88	2,400.48	3,099.44	3,099.44
10"	115.00	1,198.00	1,712.47	2,083.34	2,677.89	3,450.69	4,455.45	4,455.45
12"	155.00	2,238.00	2,308.11	2,807.98	3,609.33	4,650.93	6,005.17	6,005.17

Sources: Beaumont-Cherry Valley Water District.

Figure 3-20: Proposed Commodity Charges (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic						
Block 1 Rate per ccf (0-44 ccf)	\$ 1.21	\$ 1.40	\$ 1.71	\$ 2.12	\$ 2.64	\$ 2.64
Block 2 Rate per ccf (45+ ccf)	1.32	1.53	1.87	2.31	2.88	2.88
Multi-Family Residential						
Block 1 Rate per ccf (0-35 ccf per unit)	1.21	1.40	1.71	2.12	2.64	2.64
Block 2 Rate per ccf (36+ ccf per unit)	1.23	1.42	1.74	2.15	2.68	2.68
Commercial/Fire Service						
Multiple Commercial	1.25	1.45	1.77	2.18	2.72	2.72
Landscape	1.45	1.68	2.05	2.53	3.16	3.16
Agriculture	1.28	1.48	1.81	2.24	2.79	2.79
Construction	1.45	1.68	2.06	2.54	3.17	3.17

Sources: Beaumont-Cherry Valley Water District.

Figure 3-21: Proposed Commodity Charges (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic						
Block 1 Rate per ccf (0-44 ccf)	\$ 0.78	\$ 0.95	\$ 1.22	\$ 1.57	\$ 2.03	\$ 2.03
Block 2 Rate per ccf (45+ ccf)	0.91	1.11	1.43	1.84	2.38	2.38
Multi-Family Residential						
Block 1 Rate per ccf (0-35 ccf per unit)	0.78	0.95	1.22	1.57	2.03	2.03
Block 2 Rate per ccf (36+ ccf per unit)	0.85	1.04	1.33	1.72	2.21	2.21
Commercial/Fire Service	0.83	1.00	1.29	1.66	2.15	2.15
Multiple Commercial	0.83	1.00	1.29	1.66	2.15	2.15
Landscape	0.97	1.17	1.51	1.94	2.51	2.51
Agriculture	0.85	1.03	1.32	1.71	2.20	2.20
Construction	0.97	1.18	1.51	1.95	2.52	2.52

Sources: Beaumont-Cherry Valley Water District.

Impact of Revenue Increase

In Calendar Year 2011, the proposed 15% increase in required revenue does not directly correlate to a 15% increase in rates. The cost of service analysis and, in Domestic’s case, the restructuring of the consumption blocks dictate the actual adjustments to the rates.

Figure 3-22 details a comparison of the District’s existing rates with the proposed domestic rates (rate increase effective January 2011). Based on the District’s Master Plan, the average gallons per day (gpd) for a domestic residence is 580 gallons per day. Given the household density of 2.79, this calculates to be a bi-monthly consumption of 44 ccf for an average domestic residence. As revealed in the comparison, those who burden the system the greatest, over 55 ccf, see a larger increase in their bi-monthly bill.

Figure 3-22: Bi-Monthly Comparative Water Bills - Domestic

2011 Proposed Block 1 Consumption Rate per ccf	(0-44 ccf)	\$	0.95
2011 Proposed Block 2 Consumption Rate per ccf	(45+ ccf)	\$	1.11

Bi-Monthly Usage (CCF)	Current Monthly Meter Rates	Bi-Monthly Consumption Charge	Current Rates Power & State PW Charges	Current Rates Power & State PW Charges	Total Current Charge	Proposed Bi-Monthly Meter Charge	Proposed Block 1 Consumption Charge	Proposed Block 2 Consumption Charge	Proposed Power & State PW Charges	Total Proposed Charge	Increase/ (Decrease)								
30	\$	12.00	\$	25.20	\$	14.70	\$	51.90	\$	14.89	28.52	\$	-	\$	12.92	\$	56.33	\$	4.43
35		12.00		29.40		17.15		58.55		14.89	33.27		-		15.07		63.23		4.68
44		12.00		36.96		21.56		70.52		14.89	41.82		-		18.95		75.66		5.14
50		12.00		42.00		24.50		78.50		14.89	41.82		6.68		21.53		84.92		6.42
55		12.00		46.20		26.95		85.15		14.89	41.82		12.24		23.69		92.64		7.49
60		12.00		50.40		29.40		91.80		14.89	41.82		17.80		25.84		100.36		8.56

Sources: Beaumont-Cherry Valley Water District.

Beaumont-Cherry Valley Water District
California



Draft Report
Water Rate Study
Modified CIP Bond Issue Option

April 22, 2010



27368 Via Industria, Suite 110
Temecula, CA 92590
T: 951.587.3500
F: 951.587.3510

April 22, 2010

Mr. Tony Lara
General Manager
Beaumont-Cherry Valley Water District
560 Magnolia Avenue
Beaumont, CA 92223

Dear Mr. Lara,

Willdan Financial Services (Willdan) is pleased to present this report on the water rate study conducted for Beaumont-Cherry Valley Water District (District).

This report was undertaken as the District is facing several challenges to continuing its high-quality operations. The focus of this study is to ensure that the utility has sufficient revenues to meet its operational, capital and debt service obligations and that rates are set proportionate to the costs of providing utility service to each customer class. Our report outlines the approach, methodology, findings, and conclusions of this study.

This report has been prepared using generally accepted rate setting techniques. The District's utility accounting, budgeting, and billing records were the primary sources for the data contained within the report. Furthermore, Willdan has worked closely with District staff over the course of this project. The conclusions contained within this report provide the District with a set of recommendations to provide stable technically defensible funding for continued high-quality operations.

It was a pleasure working with you, and we also wish to express our thanks to other staff members at the District, for the support and cooperation extended throughout the study.

Sincerely,

Willdan Financial Services

Gregg Tobler
Senior Project Analyst

Table of Contents

- Table of Contents iii**
- List of Figures..... iv**
- Executive Summary 5**
- Project Background 7**
 - Key Financial Plan Objectives..... 7
 - Overview of the Rate Study Process 8
 - Organization of the Report 9
- Rate Setting Principles 10**
 - Established Principles & Guidelines 10
 - Revenue Requirements 11
 - Financial Planning 11
 - Rate Design 12
 - Rate Setting Principles Summary 12
- Water Rate Analysis 13**
 - Revenue Requirements Analysis..... 14
 - Cost of Service Analysis 18
 - Rate Design Analysis 20

List of Figures

Table of Contents	iii
List of Figures.....	iv
Executive Summary	5
Figure E-1: Projection Using Current Water Rates.....	5
Figure E-2: Projection Using Proposed Water Rates.....	6
Project Background	7
Figure 1-1: Comprehensive Rate Study Interrelated Analysis	9
Rate Setting Principles	10
Figure 2-1: Overview of the “Cash Basis” Design.....	11
Water Rate Analysis	13
Figure 3-1: Revenue and Expenditure Projections – Existing Rates.....	13
Figure 3-2: Accounts and Consumption	14
Figure 3-3: Projected Debt Service	15
Figure 3-4: Water Capital Projects	16
Figure 3-5: Revenue Requirements.....	17
Figure 3-6: Revenue and Expenditure Projections – Proposed Rates.....	18
Figure 3-7: Classification of Water Expenses by Function	19
Figure 3-8: Existing Rate Structure for all Customer Classes	21
Figure 3-9: Existing SCE Power Charge and State Project Water Costs Charge	21
Figure 3-10: Existing Bi-Monthly Fixed Meter Charge	22
Figure 3-11: Existing Private Fire Service Charges	22
Figure 3-12: Domestic Tier Changes (State Project Water Costs & Power Costs Included)	23
Figure 3-13: Multi-Family Residential Tier Changes (State Project Water Costs & Power Costs Included)	23
.....	23
Figure 3-14: Domestic Tier Changes (State Project Water Costs & Power Costs Not Included)	23
Figure 3-15: Multi-Family Residential Bi-Monthly Tier Changes (State Project Water Costs & Power	24
Costs Not Included)	24
Figure 3-16: Proposed State Project Water and SCE Power Charges	24
Figure 3-17: Bi-Monthly Private Fire Service Charges.....	25
Figure 3-18: Bi-Monthly Fixed Meter Charges (State Project Water Costs & Power Costs Included)	25
Figure 3-19: Bi-Monthly Fixed Meter Charges(State Project Water Costs & Power Costs Not Included)	26
.....	26
Figure 3-20: Proposed Commodity Charges (State Project Water Costs & Power Costs Included)	26
Figure 3-21: Proposed Commodity Charges (State Project Water Costs & Power Costs Not Included)	27
Figure 3-22: Bi-Monthly Comparative Water Bills - Domestic	28

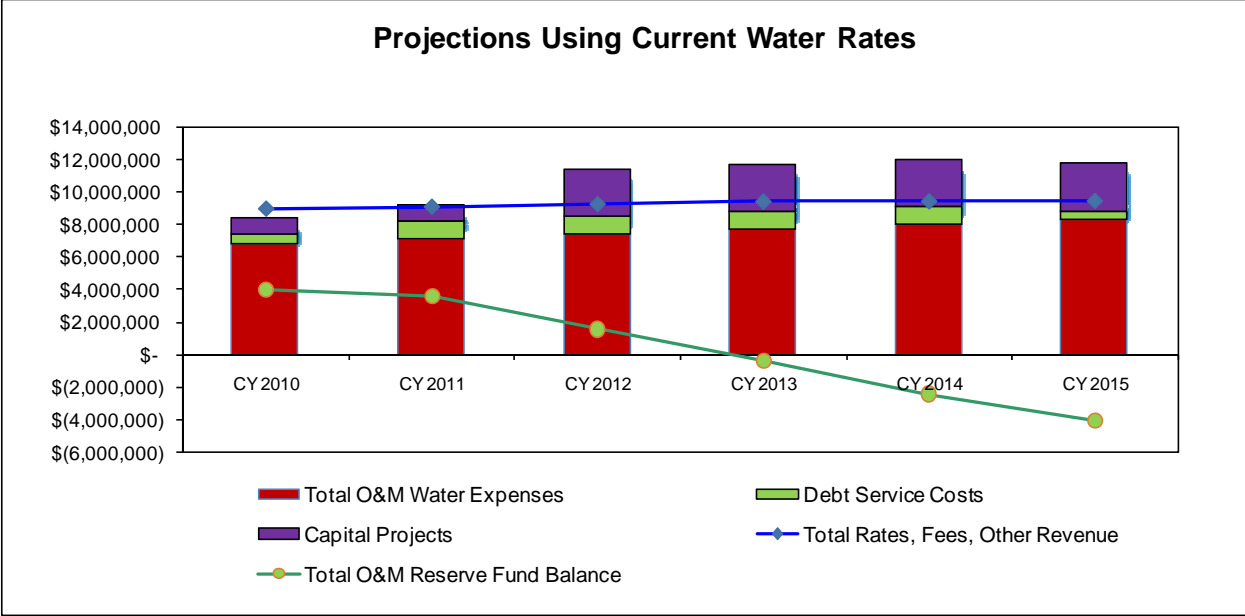
Executive Summary

The District desires rates that fully fund operations, maintenance, and present and future capital costs for new wells, infrastructure rehabilitation, and enhancements. The District is facing several challenges to continuing its water utility operations, including inadequate annual water rate revenues to keep pace with increasing operational, maintenance and major capital costs; and the need to meet water conservation objectives while maintaining a self-funding water utility enterprise fund.

The District retained Willdan Financial Services (Willdan) to prepare a rate study for the water utility to ensure the utility has sufficient revenues to meet their operational, capital and debt service obligations and that rates are set proportionate to the costs of providing utility service to each customer class in compliance with Proposition 218. Therefore, the purpose of the proposed rate study is to provide recommendations on changes to the current utility rate structure to meet these challenges. As part of this rate study, Willdan facilitated dialogue with District staff during conference calls and meetings. During these discussions, the District made recommendations to incorporate into the study where appropriate. This report documents the findings, analyses and recommendations of the comprehensive rate study effort.

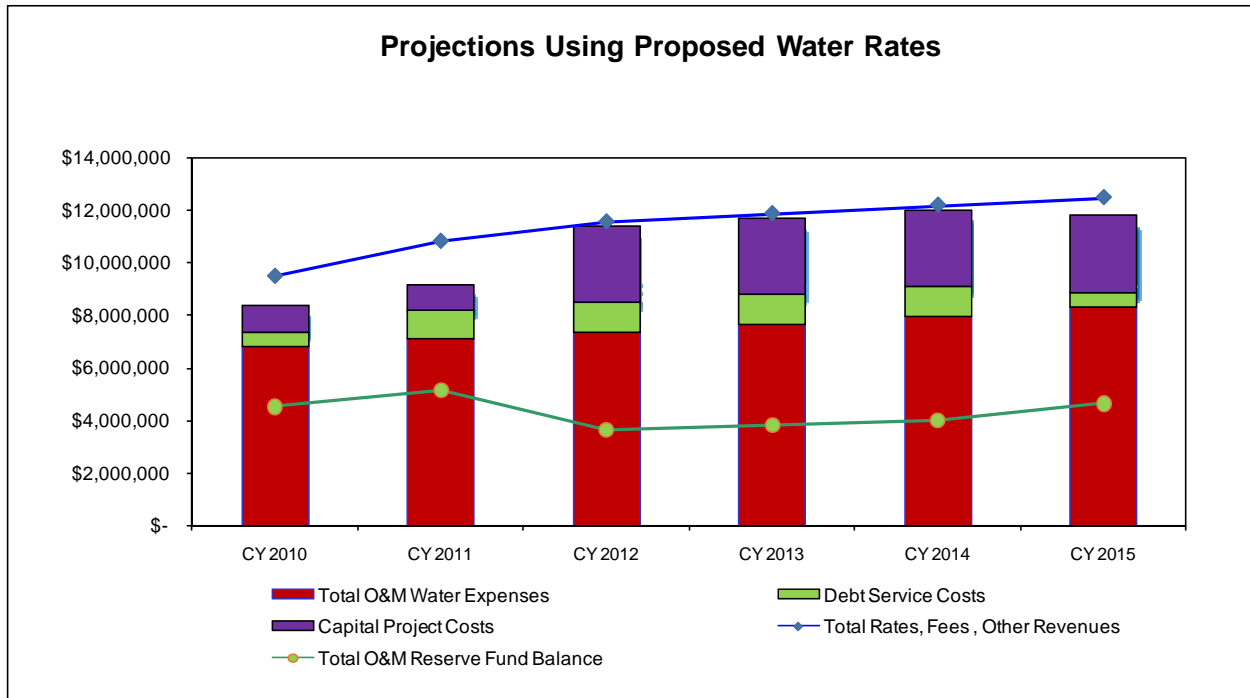
The graph (Figure E-1) below demonstrates the current and projected financial conditions of the water system absent a comprehensive rate restructuring and assuming no rate increases over the next 5 years. As the figure illustrates, holding rate structures and rates constant will result in depleted reserve funds, reduced quality of operations or services, and deferred capital projects that are urgently needed due to aging infrastructure.

Figure E-1: Projection Using Current Water Rates



The graph (Figure E-2) below demonstrates the projected financial condition of the water system assuming adoption of a comprehensive rate restructuring and recommended rate increases over the next 5 years. As the figures illustrate, the proposed rate structure and rate increases will enable the District to continue its operations, establish prudent reserve fund levels, and fund capital projects that are urgently needed through a bond financing.

Figure E-2: Projection Using Proposed Water Rates



The following report provides detail regarding the supporting rate analysis and recommendations.

Project Background

Beaumont-Cherry Valley Water District owns and operates a water system for residents and businesses within Beaumont, Cherry Valley and parts of southeastern Calimesa. As of Calendar Year 2010, the water system provides service to approximately 15,000 residential and non-residential potable water customers. The District operates the water system as a self-supporting enterprise.

The District's responsibilities include water storage and delivery, water resource management, water policy development, and water conservation programs. The District maintains 10 active wells with a system production capacity of 34 million gallons per day. The District receives the majority of its water from groundwater supplies. The remainder of the water the District receives comes from State Water Purchase Program.

The District is currently implementing a major capital improvement program which includes new potable wells, well rehabilitation and pipeline, non-potable wells, completion of the recharge facility, a recycled water connection, reservoir painting and rehabilitation, and distribution & transmission pipeline replacement.

The District is facing several challenges to continuing its water utility operations. Utility revenues are not keeping pace with increasing operational and capital costs. In addition, customer account growth has slowed to a 2.5% annual rate and utility infrastructure is aging and must be replaced or repaired.

Due to the uniform water rate schedule, recent market conditions, and conservation objectives implemented by water purveyors, the current model does not accurately predict the revenue stream required for services provided. The District desires rates that fully fund operations, maintenance, present and future capital costs, and accounts for water conservation goals.

Key Financial Plan Objectives

Several objectives were identified during the study to guide decisions regarding the proposed financial plans and rate structures. The major objectives of the study were:

- Utility rates and fees should generate sufficient revenues to meet operating costs, capital program requirements, debt service obligations, and maintain adequate reserves consistent with sound financial management practices
- Utility rates should be set proportionate to the cost of providing utility service to each customer class to promote fairness and equity and compliance with Proposition 218
- A financial plan that shifts a majority of future capital funding to a debt financing to mitigate the impact on rates that the District's customers pay.
- A financial plan that minimizes the need to continually update the water rate structure
- Conservation objectives of the District to encourage the efficient use of water

- Utility rate and fee structures should be supported by a financial model that is easy to update should costs and assumptions change in the future beyond what was projected at the time of this report

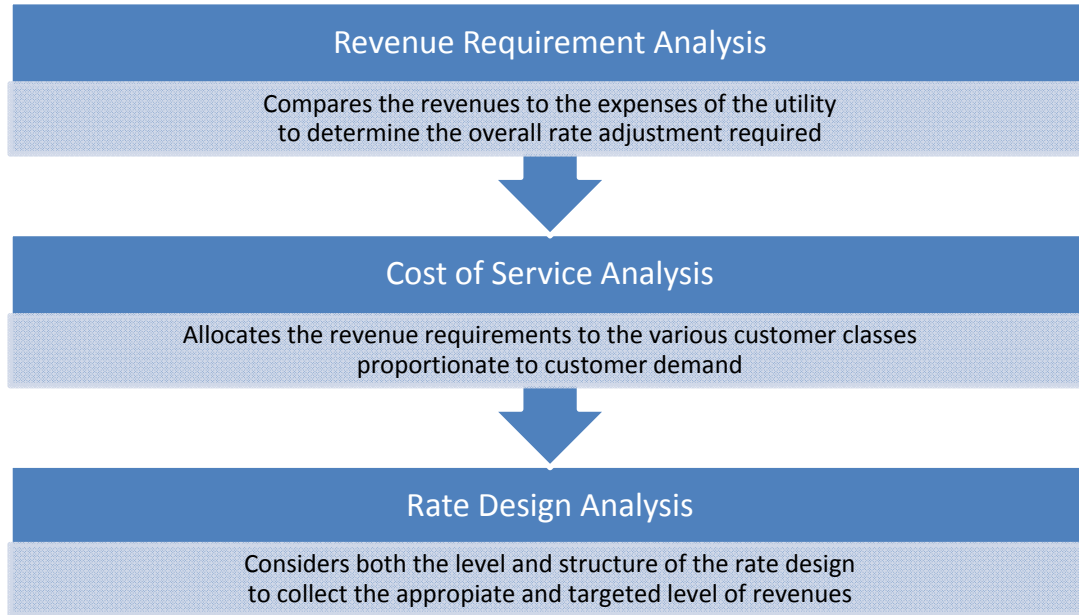
In reviewing the above objectives, it should be noted that the District has limited control over external forces such as growth, consumer behavior, the cost of purchasing water, and system usage. Recognizing these factors, we believe that the recommendations in this study provide a fair, reasonable, and balanced set of proposed rates and fees for the District that, to the extent possible, meets these key objectives.

Overview of the Rate Study Process

The scope of this study included the development of cost-based water user charges through a comprehensive cost of service and rate design analysis. Utility rates must be set at a level where a utility's operating and capital expenses are met with the revenues received from customers. This is a significant point, as failure to achieve this level may lead to insufficient funds being available to appropriately maintain the system. A comprehensive rate study typically consists of following three interrelated analyses (Figure 1-1 provides an overview of these processes).

- **Financial Planning/Revenue Requirement Analysis:** Create a ten-year plan to support an orderly, efficient program of on-going maintenance and operating costs, capital improvement and replacement activities, and retirement of outstanding debt. In addition, the long-term plan should fund and maintain reserve balances to adequate levels based on industry standards and District fiscal policies.
- **Cost of Service Analysis:** Identifies and apportions annual revenue requirements to the different customer classes based on their demand on each utility system.
- **Rate Design:** Develops a fixed/variable schedule of rates for each customer class to proportionately recover the costs attributable to them. This is also, where other policy objectives can be achieved, such as discouraging wasteful water use. The policy objectives are balanced with the cost of service objectives to maintain the delicate balance between customer equity, financial stability and resource conservation goals.

Figure 1-1: Comprehensive Rate Study Interrelated Analysis



Organization of the Report

This report is organized to provide an overview of utility rate setting principles, then a separate detailed review of the rate design process. The following sections comprise the water rate study report:

- Rate Setting Principles
- Water Rate Analysis

Rate Setting Principles

The primary objective of conducting a comprehensive rate study is to determine the adequacy of the existing rates (pricing and structure) and provide the basis for any necessary adjustments to meet the District's operating and capital needs as well as policy objectives, such as water conservation. The District desires rate structures that fully fund operations, maintenance, and present and future capital costs (plant expansions, distribution systems, and collection system rehabilitation, enhancements, or expansion). Furthermore, the District desired to maintain or possibly enhance its current conservation-based rate structure. A tiered rate structure encourages conservation by allocating each customer a consumption allotment based on average usage for which they are charged a base rate per hundred cubic foot (ccf). If an account's consumption exceeds its allotment, then the customer is charged an increased rate (block 2) per ccf for the consumption that falls above the allotment.

Established Principles & Guidelines

Over the past years, many generally accepted principles or guidelines have been established to assist in developing utility rates. The purpose of this section of the report is to provide a general background of the methodology and guidelines used for setting cost based utility rates. This will provide the reader with a higher-level understanding of the general process detailed later in this report.

As a practical matter, there should be a general set of principles to develop rates. The American Water Works Association (AWWA) establishes these principles in the M1 Manual – *Principles of Water Rates, Fees and Charges*. These guiding principles help to ensure there is a consistent global approach that is employed by all utilities in the development of their rates (water and water-related utilities including sewer and reclaimed water).

Below is a summary listing the established guidelines, which public utilities should consider when setting their rates. These closely reflect the District's specified objectives.

- Rates should be cost-based and equitable, and set at a level such that they provide revenue sufficiency.
- Rates and process of allocating costs should conform to generally accepted rate setting techniques.
- Rates should provide reliable, stable and adequate revenue to meets the utility's financial, operation, and regulatory requirements.
- Rate levels should be stable from year to year (limit "rate shocks").
- Rates should be easy to understand and administer.

These guidelines, along with the District's objectives, have been utilized within this study to help develop utility rates that are cost-based and equitable.

Revenue Requirements

The method used by most public utilities to establish their revenue requirements is called the “cash basis” approach of setting rates. As the name implies, a public utility combines its cash expenditures over a period of time to determine their required revenues from user rates and other forms of income. The figure below presents the “cash basis” methodology.

Figure 2-1: Overview of the “Cash Basis” Design

+ Operation and Maintenance Expenses
+ Taxes/Transfers
+ Capital Additions Financed with Rate Revenue
+ Debt Service (Principal and Interest)
= Total Revenue Requirements

To ensure existing ratepayers are not paying for growth-related capital projects, Willdan reviewed existing, approved/pending, and proposed Capital Improvement Projects (CIPs) with District staff to allocate projects between new (growth) and existing customers (operations and maintenance or “O&M”). Additionally, capital replacement expense is sometimes included to stabilize annual required revenue requirements by spreading the replacement costs of a depreciated asset over the expected life of the asset or through the term of bond issue, when municipal bond financing is used.

Based on the revenue requirement analysis, the utility can determine the overall level of rate adjustment needed in order for the utility to meet its overall expenditure needs.

Financial Planning

In the development of the revenue requirements, many assumptions are utilized to project future expenditures, customer and consumption growth, and necessary revenue adjustments. The District’s budget documents are used as the initial starting point; however, assumptions play a necessary role in projecting future required revenue.

Conservative growth assumptions and prudent financial planning are fundamental to ensuring adequate rate revenue to promote financial stability. The financial model developed appropriately considers the District’s existing debt service coverage ratios and operating reserve balances. In addition, as part of the financial planning, municipal bond financing is incorporated into the model to fund repair and replacement cost of depreciated infrastructure and assets. This enables the District to mitigate future rate increases as money for repair and replacement is amortized over a bond term of 20 to 30 years. As debt is redeemed, new bond issues may be utilized to fund additional capital improvements required due to the aging infrastructure.

Rate Design

The final element, the rate design process, applies the results from the revenue requirements to develop rates that achieve the general guidelines and objectives of the District. These objectives may include consideration of cost-based rates, but may also consider items such as ability to pay, continuity of past rate philosophy, conservation, encouragement of economic development, ease of administration, and legal requirements. While cost-based rates are an important objective, all objectives should be balanced appropriately.

While the general description of the utility rate setting process discussed in this section of the report is simplified and condensed, it does address the underlying fundamentals. One of the key principles for a comprehensive rate study is found in economic theory, which suggests the price of a commodity must roughly equal its cost or value if equity among customers is to be maintained – i.e. cost-based. For example, capacity-related costs are usually incurred by a water utility to meet peak use requirements. Consequently, the customers causing peak demands should properly pay for the demand-related facilities in proportion to their contribution to maximum demands. Through refinement of costing and pricing techniques, consumers of a product are given a more accurate price point of what the commodity costs to produce and deliver.

The above fundamentals have considerable foundation in economic literature. They also serve as primary guidelines for Proposition 218 compliance and rate design by most utility regulators and administrative agencies. This “price-equals-cost” theory provides the basis for much of the subsequent analysis and comment. This theory is particularly important as the proposed rate structure has been modified to encourage conservation while maintaining this economic principle.

Rate Setting Principles Summary

This section of the report provides a brief introduction to the general principles, techniques, and economic theory used to set utility rates. These principles, techniques, and economic theory were the starting point for this rate study and the groundwork used to meet the District’s key objectives in analyzing and adjusting their utility rates. When setting utility rates in California we are required to follow the principles of Proposition 218. Below is a brief discussion of Prop 218.

In *Bighorn-Desert View Water Agency v. Verjil*, the California Supreme Court held water agency’s rates were subject to repeal by initiative pursuant to Section 3 of Article XIIC of the California Constitution. Because of the Bighorn decision, water rates in California are now considered property-related fees, therefore the substantive and procedural requirements of California Constitution Articles XIIC and XIID (Proposition 218) apply to water rate setting. Section 6 of Article XIID states:

The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.

This utility rate study was performed to allocate the costs of providing service to users in order to ensure that rates are equitable and not unduly discriminatory, thereby satisfying the Proposition 218 requirements. The total cost of serving each customer class is determined by distributing each of the utility cost components among the user classes based upon the respective service requirements of each customer

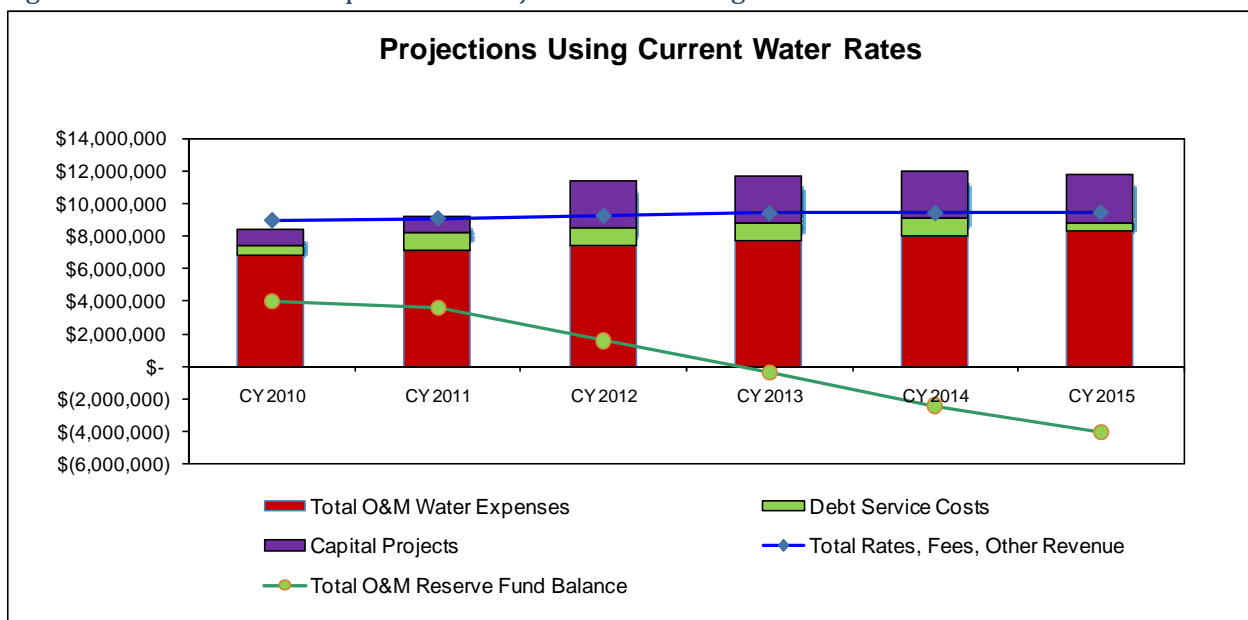
class. Therefore, a true cost of service rate study enables a water utility to adopt rates based on the true costs to each user class. The purposes of this water utility cost of service study include:

- ◆ Proportional allocation of the costs of service to users.
- ◆ Derivation of unit costs to support the development of water rates.

Water Rate Analysis

The District is facing several challenges to continuing its high-quality operations. Utility revenues are not keeping pace with increasing operational and capital costs. In addition, customer account growth has slowed to a 2.5% rate and utility infrastructure is aging and must be replaced or repaired soon. Considering the above variables, Figure 3-1 projects the adequacy of existing rate revenue to support ongoing operations and maintenance.

Figure 3-1: Revenue and Expenditure Projections – Existing Rates



As the above figure indicates, revenue increases are necessary to operate and maintain the water system. This will be evident as details of the process, data, and methodology utilized in the rate study are presented in this section of the report. Summary figures, outlining much of the analysis are included in this section of the report as well.

Customer Statistics

During the calendar Year 2009, the District provided water service to an estimated 15,000 customers, distributing roughly 5.27 million hundred cubic feet (~13,700 acre feet) of potable water. Figure 3-2 shows the District's projected water usage and number of accounts by customer class.

Figure 3-2: Accounts and Consumption

Description	Projected Water Consumption (ccf)					
	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic	3,524,727	3,612,846	3,703,167	3,795,746	3,890,640	3,987,906
Multiple Family	157,141	161,069	165,096	169,223	173,454	177,790
Commercial/Fire Service	424,669	435,285	446,168	457,322	468,755	480,474
Multiple Commercial	39,268	40,249	41,256	42,287	43,344	44,428
Landscape	980,886	1,005,408	1,030,543	1,056,307	1,082,715	1,109,783
Agriculture	54,957	56,331	57,740	59,183	60,663	62,179
Construction Water	<u>90,506</u>	<u>92,769</u>	<u>95,088</u>	<u>97,466</u>	<u>99,902</u>	<u>102,400</u>
Total Water Utility Consumption	5,272,155	5,403,959	5,539,057	5,677,534	5,819,472	5,964,959
	Percent of Total					
Domestic	66.9%	66.9%	66.9%	66.9%	66.9%	66.9%
Multiple Family	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Commercial/Fire Service	8.1%	8.1%	8.1%	8.1%	8.1%	8.1%
Multiple Commercial	0.7%	0.7%	0.7%	0.7%	0.7%	0.7%
Landscape	18.6%	18.6%	18.6%	18.6%	18.6%	18.6%
Agriculture	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
Construction Water	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>	<u>1.7%</u>
Total Water Utility Consumption	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sources: Beaumont-Cherry Valley Water District.

A projection of customers, usage, and production requirements is necessary in the evaluation of the revenue requirements. This projection is critical for the determination of revenues from rates, escalation of production-related costs, and design of the rates.

Given the current economic climate and review of potential growth, Willdan in conjunction with District staff determined to use a conservative growth rate equal to 2.5%.

Revenue Requirements Analysis

Revenue from Existing Rates

The first step in developing the revenue requirements is to develop a projection of revenues from existing rates. The District expects to receive approximately \$6.1 million in water sales in Calendar Year 2010. By 2020, assuming the growth discussed above, water sales are projected to increase roughly 25% to \$7.6 million. In addition to water sales, the District has a projected average of non-operating revenues approximately equal to two hundred thousand dollars, consisting of interest income.

Projections of Operation and Maintenance Expenses

To project Operating and Maintenance (O&M) expenses over the five-year planning horizon, two escalation factors were developed. The operations cost escalator, set at 4.00%, is applied to basic expenditures that the District incurs: labor, benefits, materials, utilities, etc. The Personnel cost escalator is set at 4.0%. In order for the District to maintain a stable Operating Reserve, Emergency Reserve, Rate Stabilization Reserve and Capital Recovery Reserve: Per the District's recommendation, the District should, depending upon the current year circumstances, have at least a one-year reserve of spendable resources equal to that year's total operating expenses including depreciation. If total operating expenses plus depreciation expense equals \$10.0 million, then the spendable net assets reserve should be \$10.0 million.

Debt Service

The District does not currently have long-term debt. Figure 3-3 illustrates the amount of projected debt service for both the current capital projects and the major capital improvements. The District plans on paying for the current capital projects in the amount of five million by financing them via a five-year loan with a rate of 3.38%. The District plans on paying for major capital improvements in Figure 3-4 by issuing a bond at 5.50% interest, which would have annual payments of approximately \$1,943,000 for thirty years. Figure 3-3 provides a summary of the District's water related projected debt service.

Figure 3-3: Projected Debt Service

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<u>Debt Service</u>						
Proposed Loan Payment (Current CIP)	554,969	1,090,256	1,097,977	1,094,430	1,094,870	544,042
Proposed Bond Issue (Major CIP)	-	-	1,943,000	1,943,000	1,943,000	1,943,000
Total Debt Service	\$ 554,969	\$ 1,090,256	\$ 3,040,977	\$ 3,037,430	\$ 3,037,870	\$ 2,487,042

Sources: Beaumont-Cherry Valley Water District, Willdan Financial Services.

Capital Improvement Projects

The District's Capital Improvement Program (CIP) needs for the water utility are summarized in Figure 3-4. Individually, each project was identified by District staff as growth-related, existing needs (O&M) or a percentage of both to determine the appropriate funding mechanism (bi-monthly rates or connection fee). The capital projects are required to meet the utilities projected growth and to maintain the existing quality of the system.

Figure 3-4: Water Capital Projects

% Allocated to Existing Customers	Project Name/Description	Funding Source	Projected					Current 2010 -15
			2011	2012	2013	2014	2015	
<u>Production/Conservation</u>								
100%	Beaumont Basin New Water Well	Water Rates	3,375,000					3,375,000
100%	Singleton Basin New Well	Water Rates	1,802,000					1,802,000
100%	Bonita Vista/Cherry Valley Water Company Well Rehabilitation and Pipeline	Water Rates						-
100%	RR1 Well Rehabilitation and Pipeline	Water Rates						-
100%	Pollution Control Project	Water Rates						-
100%	San Timoteo Non-potable Wells and Pipeline to Recycled Water System	Water Rates						-
100%	Completion of the Stormwater Capture Project incl Phase 3 of the Recharge Facility	Water Rates	10,757,000					10,757,000
100%	Sundance Stormwater Recovery Project	Water Rates						-
100%	Noble Creek Rubber Dam Project	Water Rates	1,620,000					1,620,000
100%	Secondary Recycled Water Connection	Water Rates	7,620,000					7,620,000
100%	Highland Springs Reservoir Painting and Rehabilitation	Depreciation	177,000					177,000
100%	Distribution and Transmission Pipeline Replacement	Depreciation					3,277,000	3,277,000
100%	GIS and GPS Equipment Upgrades	Depreciation		47,000				47,000
Total Cost in CY 2010 Dollars (CIP funded by Water Rates).			\$ 25,174,000	\$ -	\$ -	\$ -	\$ -	\$ 25,174,000
Total Cost in CY 2010 Dollars (R&R Projects Funded by depreciation)				\$ 47,000	\$ -	\$ -	\$ 3,277,000	3,324,000
Total Construction cost estimates escalated annually by PPI (CIP funded by Water Rates).			\$ 27,530,351		\$ -	\$ -		27,530,351
Total Construction cost estimates escalated annually by PPI (R&R Projects Funded by depreciation)			\$ -	\$ 53,189	\$ -	\$ -	\$ 4,196,879	\$ 4,250,068

Notes:

Construction cost estimates were escalated annually by a factor of 4.21% based on the average annual increase between 2004 and 2009 in Engineering News Record Construction Cost Index.

Sources: Beaumont-Cherry Valley Water District; Engineering News Record's Construction Cost Index; Willdan Financial Services.

Summary of Revenue Requirements Analysis

The above components comprise the foundation of the revenue requirement analysis. During the discussions with the District, District staff made recommendations to assure the accuracy of financial and growth variables used in developing the revenue requirement analysis. Particular emphasis was placed on attempting to minimize rates, yet still encompass adequate funds to support the operational activities and capital projects throughout the study period.

The revenue requirements analysis figure, presented below, provides a basis for evaluating the timing and level of water revenue increases required to meet the projected required revenue for the study period. The percentages shown at the bottom of the figure show the recommended revenue adjustments.

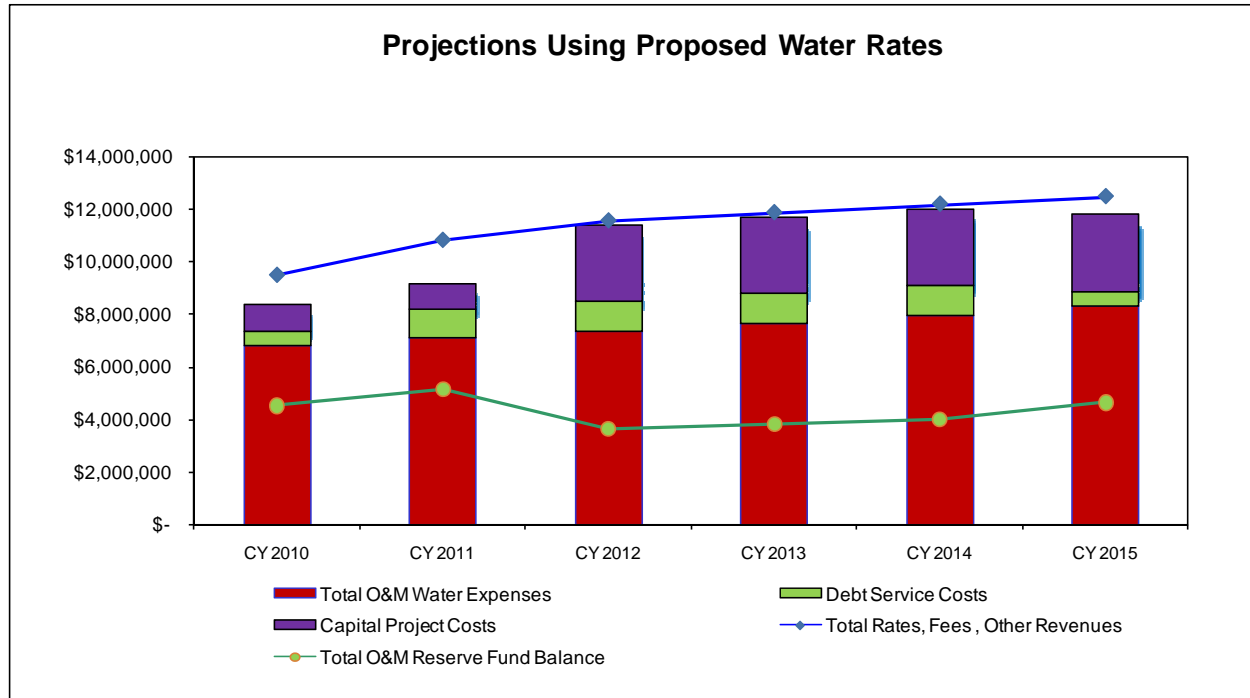
Figure 3-5: Revenue Requirements

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Operating Revenue						
1 Water Sales	\$ 6,092,979	\$ 6,245,303	\$ 6,401,436	\$ 6,561,472	\$ 6,725,509	\$ 6,893,646
2 Service Connections	2,635,501	2,701,389	2,768,923	2,838,146	2,909,100	2,981,827
3 Reimbursements (Development & Inspection)	60,000	61,500	63,038	64,613	66,229	67,884
4 Other	148,200	151,905	155,703	159,595	163,585	167,675
5 Total Operating Revenue	\$ 8,936,680	\$ 9,160,097	\$ 9,389,099	\$ 9,623,827	\$ 9,864,423	\$ 10,111,033
Additional Revenue Required						
7 Year	Revenue Increase	Months Effective				
8 CY 2010	15.00%	6	456,973	936,796	960,215	984,221
9 CY 2011	7.00%	12	-	502,747	515,316	528,198
10 CY 2012	6.00%	12	-	-	472,618	484,433
11 CY 2013	0.00%	12	-	-	-	496,544
12 CY 2014	0.00%	12	-	-	-	-
13 CY 2015	0.00%	12	-	-	-	-
14 CY 2016	0.00%	12	-	-	-	-
15 CY 2017	0.00%	12	-	-	-	-
16 CY 2018	0.00%	12	-	-	-	-
17 CY 2019	0.00%	12	-	-	-	-
18 Total Additional Operating Revenue	456,973	1,439,542	1,948,149	1,996,853	2,046,774	2,097,943
19 Total Required Revenue	\$ 9,393,653	\$ 10,599,639	\$ 11,337,248	\$ 11,620,680	\$ 11,911,197	\$ 12,208,977
Applications of Operating Funds						
<u>Operating Expenses</u>						
22 Source of Supply	\$ 3,071,820	\$ 3,194,693	\$ 3,322,481	\$ 3,455,380	\$ 3,593,595	\$ 3,737,339
23 Transmission & Distribution	938,700	976,248	1,015,298	1,055,910	1,098,146	1,142,072
24 Customer Service & Meter Reading	183,400	190,736	198,365	206,300	214,552	223,134
25 General Administration	1,818,300	1,891,032	1,966,673	2,045,340	2,127,154	2,212,240
26 Maintenance & General Plant	393,400	409,136	425,501	442,521	460,222	478,631
27 Engineering (In-House)	112,012	116,492	121,152	125,998	131,038	136,280
28 Professional Services	290,000	301,600	313,664	326,211	339,259	352,829
29 Total Operating Expenses	\$ 6,807,632	\$ 7,079,937	\$ 7,363,135	\$ 7,657,660	\$ 7,963,967	\$ 8,282,525
30 Net Operating Income (Loss)	\$ 2,586,021	\$ 3,519,702	\$ 3,974,114	\$ 3,963,020	\$ 3,947,230	\$ 3,926,451
<u>Debt Service</u>						
32 Proposed Loan Payment (Current CIP)	554,969	1,090,256	1,097,977	1,094,430	1,094,870	544,042
33 Proposed Bond Issue (Major CIP)	-	-	1,943,000	1,943,000	1,943,000	1,943,000
34 Total Debt Service	\$ 554,969	\$ 1,090,256	\$ 3,040,977	\$ 3,037,430	\$ 3,037,870	\$ 2,487,042
35 Coverage Ratio	4.84	3.43	1.38	1.39	1.39	1.69
Non-Operating Revenue (Expenses)						
37 Miscellaneous expense	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)	\$ (8,182)
38 Investment income	98,891	216,139	217,285	245,401	275,176	264,821
39 Total Non-Operating Revenue (Expenses)	\$ 90,709	\$ 207,957	\$ 209,103	\$ 237,219	\$ 266,994	\$ 256,639
Capital Project Expenses						
41 CIP Program	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
42 Repair & Replacement Reserve (Depreciation)	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
43 Rate Funded Capital Projects	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
44 Net Income (Loss)	\$ 1,121,761	\$ 1,637,404	\$ 142,240	\$ 162,808	\$ 176,354	\$ 696,049
45 Operating Reserve Fund Balance Met?	-	-	-	-	-	-
Fund Information						
Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Operating & Maintenance Fund						
49 Beginning Operating Fund Balance	\$ 3,386,403	\$ 3,491,476	\$ 3,491,476	\$ 3,631,135	\$ 3,793,943	\$ 3,927,436
50 Deposit (Withdrawals)	1,121,761	1,637,404	142,240	162,808	176,354	696,049
51 Subtotal O&M Fund Balance	\$ 4,508,163	\$ 5,128,880	\$ 3,633,716	\$ 3,793,943	\$ 3,970,297	\$ 4,623,484
52 Fund Balance Days of O&M	180	180	180	180	180	180
53 Recommended Reserve Balance	3,357,188	3,491,476	3,631,135	3,776,380	3,927,436	4,084,533
54 Excess O&M	1,016,688	1,637,404	2,581	-	42,862	538,951
55 Total O&M Fund Balance	\$ 3,491,476	\$ 3,491,476	\$ 3,631,135	\$ 3,793,943	\$ 3,927,436	\$ 4,084,533
Repair and Replacement Reserve Fund						
57 Beginning Operating Fund Balance	\$ -	\$ 2,016,688	\$ 4,654,091	\$ 5,603,483	\$ 6,603,483	\$ 7,646,345
58 Deposit	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
59 Withdrawals for R&R Projects	-	-	(53,189)	-	-	(4,196,879)
60 Excess O&M	1,016,688	1,637,404	2,581	-	42,862	538,951
61 Total R&R Fund Balance	\$ 2,016,688	\$ 4,654,091	\$ 5,603,483	\$ 6,603,483	\$ 7,646,345	\$ 4,988,418

Sources: Beaumont-Cherry Valley Water District, Willdan Financial Services.

Based upon the revenue requirement analysis, the District will need to adjust the rates to increase revenue by 15% for the remaining six months of calendar year 2010, followed by a 7% increase in revenues in calendar year 2011, followed by a 6% revenue increase in calendar year 2012. This approach will result in a 30% revenue increase over the next five years. Figure 3-6 expands upon the earlier figure (Figure 3-1), to illustrate the positive impact of the revenue increase on the utility's financial condition.

Figure 3-6: Revenue and Expenditure Projections – Proposed Rates



Cost of Service Analysis

The cost of service analysis is a systematic process by which revenue requirements are used to generate a classification of fair and equitable costs in proportion to the service received for each user class.

Cost Allocation by Function

The cost of service allocation conducted in this study is established on the base-extra capacity method endorsed by the AWWA. Under the base-extra capacity method, revenue requirements are allocated to the different user classes proportionate to their use on the water system. Allocations are based on average day (base) usage, maximum day (peak) usage, meters and services, billing and collection, and fire protection. Use of this methodology results in an AWWA-accepted cost distribution among customer classes and a means of calculating and designing rates to proportionately recover those costs.

Figure 3-7 classifies the major functions of the water system and allocates those related costs to the demand factors average day (base), maximum day (peak) usage, meters and services, and customer accounts.

Figure 3-7: Classification of Water Expenses by Function

Description	Total Revenue Requirement	Extra Capacity		Customer Costs		Basis of Classification
		Base	Max Day	Customer Billing	Meters & Services	
SOURCE OF SUPPLY						
Labor and Admin Source of Supply	\$ 961,809	\$ 961,809	\$ -	\$ -	\$ -	100% Base
Water and Utility Cost - Source of Supply	\$ 144	\$ 96	\$ 48	\$ -	\$ -	Avg/Max Day
Total Source of Supply	\$ 961,953	\$ 961,905	\$ 48	\$ -	\$ -	
MAINTENANCE & GENERAL PLANT						
Maintenance & General Plant	\$ 472,320	\$ 472,320	\$ -	\$ -	\$ -	100% Base
Total Maintenance & General Plant	\$ 472,320	\$ 472,320	\$ -	\$ -	\$ -	
TRANSMISSION & DISTRIBUTION						
Transmission & Distribution	\$ 1,127,013	\$ 375,671	\$ 375,671	\$ -	\$ 375,671	33% Base/Max/Meters
Total Transmission & Distribution	\$ 1,127,013	\$ 375,671	\$ 375,671	\$ -	\$ 375,671	
CUSTOMER COSTS						
Customer Service & Meter Reading	\$ 220,192	\$ -	\$ -	\$ 110,096	\$ 110,096	50% fixed
Total Customer Costs	\$ 220,192	\$ -	\$ -	\$ 110,096	\$ 110,096	
Total O & M (\$)	\$ 2,781,479	\$ 1,809,897	\$ 375,719	\$ 110,096	\$ 485,767	
Total O & M (%)	100.00%	65.07%	13.51%	3.96%	17.46%	
GENERAL & ADMINISTRATIVE						
General Administration	\$ 2,183,070	\$ 545,768	\$ 545,768	\$ 545,768	\$ 545,768	25% across
Engineering (In-House)	134,483	33,621	33,621	33,621	33,621	25% across
Professional Services	348,177	87,044	87,044	87,044	87,044	25% across
Total General and Administrative	\$ 2,665,730	\$ 666,433	\$ 666,433	\$ 666,433	\$ 666,433	
REVENUE-FUNDED CAPITAL PROGRAMS						
Rate Funded Capital Projects	\$ 2,943,000	\$ 981,000	\$ 981,000	\$ -	\$ 981,000	33% Base/Max/Meters
Total Capital Project Costs	\$ 2,943,000	\$ 981,000	\$ 981,000	\$ -	\$ 981,000	
DEBT SERVICE						
Loan Payment	547,654	136,914	136,914	136,914	136,914	25% across
Total Debt Service	\$ 547,654	\$ 136,914	\$ 136,914	\$ 136,914	\$ 136,914	
TOTAL FUNCTIONALIZED COSTS	\$ 8,937,863	\$ 3,594,243	\$ 2,160,065	\$ 913,442	\$ 2,270,113	
FUNCTIONALIZATION FACTOR	100.00%	40.21%	24.17%	10.22%	25.40%	

Sources: Beaumont-Cherry Valley Water District

The resulting functionalization factors that appear at the bottom of Figure 3-7 are utilized to allocate system operating and capital costs to each customer class based on the each class' demand on the system.

Rate Design Balance

There is some flexibility in the design of the rate structure to meet the District's rate setting objectives while being consistent with cost of service principles and conservation objectives. There are positives and negatives associated with the decrease in fixed revenue. Typically, a larger percentage of fixed rate revenue results in greater revenue stability since a greater percentage of total revenues are not influenced by fluctuations in consumption due to the weather, household density, and abusive water use. At the same time, the decrease in fixed revenue will improve equitability concerning cost recovery and the impact of

conservation measures while reducing revenue stability, as users have greater control over their consumption and ultimately their bill. The fixed portion of the proposed water rates generates an estimated 35% of total rate revenue.

Rate Design Analysis

The final step of the rate study is the design of the water rates to collect the desired level of revenue determined in the revenue requirement analysis, while encouraging the efficient use of water. During this analysis, consideration is given to both the level of rates and the structure of the rates. This section reviews the proposed water rate design for the District. The District requested Willdan develop two rate structures one of which incorporates the costs of State Project Water Costs and SCE Power costs into the consumption rate. The second rate structure resembles the District's current rate structure which includes a separate SCE Power Charge and State Project Water Cost Charge.

Criteria and Considerations

In determining the appropriate rate level and structure, Willdan, in conjunction with District staff, analyzed various generated financial scenarios concerning the proposed adjustments and the implications attributed to those decisions.

A simplified list of some of the design considerations that were reviewed is listed:

- Consideration of the customer's ability to pay
- Clear and understandable rates
- Easily administered
- Conservation measures
- Revenue stability (month to month and year to year)
- Efficient allocation of resources
- Capital Improvement Financing (improving the existing system)
- Fair and equitable (cost-based) rates

Every consideration has merit and plays an important role in a comprehensive rate study. When developing the District's proposed rates all of the aforementioned criteria were taken into consideration. Determining the appropriate balance is crucial, as some of the criteria sometime conflict with one another, i.e. the customers ability to pay and cost-based. In designing rates, there will always be a balance between the various objectives; however, we attempt to ensure the proposed rates meet all of the leading objectives of the District.

Overview of Existing Rate Structure

The District has a fixed meter charge, an uniform consumption rate structure, a separate SCE Power Charge, a State Project Water Costs Charge and Private Fire Service Standby Charges. The District's Existing water rate structure, shown in Figure 3-8 currently employs an uniform rate structure as outlined in Figure 3-8. Figure 3-9 details the SCE Power Charge and State Project Water Costs Charge. All customer classes are charged a fixed bi-monthly fee based on meter size as shown in Figure 3-10. Figure 3-11 details the District's current private fire service charges.

Figure 3-8: Existing Rate Structure for all Customer Classes

Description (Customer Class)	Current Rates
Domestic Rate	.84 per ccf
Scheduled Irrigation Rate	.47 per ccf
Multiple Family Rate	.84 per ccf
Commercial Rate	.84 per ccf
Multiple Commercial Rate	.84 per ccf
Outside Service Rate	1.68 per ccf
Construction Water Rate	1.61 per ccf

Sources: Beaumont-Cherry Valley Water District.

Figure 3-9: Existing SCE Power Charge and State Project Water Costs Charge

SCE Power Charge - Not to exceed \$0.25 per ccf.
State Project Water Cost Charge - Not to exceed \$0.24 per ccf.

Sources: Beaumont-Cherry Valley Water District.

Figure 3-10: Existing Bi-Monthly Fixed Meter Charge

Description (Meter Size)	Current Rates
5/8"	\$ 12.00
3/4"	17.25
1"	28.00
1-1/2"	54.00
2"	85.00
3"	158.00
4"	262.00
6"	5,522.00
8"	834.00
10"	1,198.00
12"	2,238.00

Sources: Beaumont-Cherry Valley Water District.

Figure 3-11: Existing Private Fire Service Charges

Description (Meter Size)	Current Rates
4"	\$ 56.00
6"	162.00
8"	345.00
10"	619.00
12"	1,000.00

Sources: Beaumont-Cherry Valley Water District.

Proposed Rate Adjustments

Conservation

In addition to a cost-based approach, a secondary objective of the District is to encourage water conservation through design and implementation of the new rate and structure. Beyond the revenue adjustments established in the required revenue analysis and the allocation of cost determined in the cost of service analysis, Willdan and the District discussed changes to the rate structure (tiers) and consumption levels of the blocks (tiers). The proposed consumption blocks, tiers, enable the District to encourage conservation, while reducing the burden on those already conserving. By matching the consumption blocks to consumption levels, The District should be able to achieve their conservation goals.

Figure 3-12 and Figure 3-13, below, outlines the proposed changes to the existing water rate structure, which includes State Project Water Costs. Figure 3-14, Figure 3-15, and Figure 3-16, below, outlines the proposed changes to the existing water rate structure in which the State Project Water Costs and SCE

Power Costs will be recovered through direct surcharges. The policy of the District is to charge customers outside District boundaries an amount that is twice the rate stated in the figures below.

Figure 3-12: Domestic Tier Changes (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 2,913,768	\$ 3,287,847	\$ 3,516,642	\$ 3,604,558	\$ 3,694,672	\$ 3,787,039
Total Base Consumption (ccf)	<u>2,349,818</u>	<u>2,408,564</u>	<u>2,468,778</u>	<u>2,530,497</u>	<u>2,593,760</u>	<u>2,658,604</u>
Rate per ccf	\$ 1.24	\$ 1.37	\$ 1.42	\$ 1.42	\$ 1.42	\$ 1.42
Allocated Share of Peaking Costs	\$ 1,513,545	\$ 1,707,858	\$ 1,826,705	\$ 1,872,373	\$ 1,919,182	\$ 1,967,161
Total Consumption (ccf)	<u>1,174,909</u>	<u>1,204,282</u>	<u>1,234,389</u>	<u>1,265,249</u>	<u>1,296,880</u>	<u>1,329,302</u>
Cost per ccf	\$ 1.29	\$ 1.42	\$ 1.48	\$ 1.48	\$ 1.48	\$ 1.48
Block 1 Rate per ccf (0-44 ccf)	\$ 1.24	\$ 1.37	\$ 1.42	\$ 1.42	\$ 1.42	\$ 1.42
Block 2 Rate per ccf (45+ ccf)	\$ 1.29	\$ 1.42	\$ 1.48	\$ 1.48	\$ 1.48	\$ 1.48

Sources: Beaumont-Cherry Valley Water District.

Figure 3-13: Multi-Family Residential Tier Changes (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 129,903	\$ 146,580	\$ 156,780	\$ 160,700	\$ 164,717	\$ 168,835
Total Consumption (ccf)	<u>\$ 104,760</u>	<u>\$ 107,379</u>	<u>\$ 110,064</u>	<u>\$ 112,816</u>	<u>\$ 115,636</u>	<u>\$ 118,527</u>
Rate per ccf	\$ 1.24	\$ 1.37	\$ 1.42	\$ 1.42	\$ 1.42	\$ 1.42
Allocated Share of Peaking Costs	\$ 62,796	\$ 70,858	\$ 75,789	\$ 77,683	\$ 79,626	\$ 81,616
Total Consumption (ccf)	<u>52,380</u>	<u>53,690</u>	<u>55,032</u>	<u>56,408</u>	<u>57,818</u>	<u>59,263</u>
Cost per ccf	\$ 1.20	\$ 1.32	\$ 1.38	\$ 1.38	\$ 1.38	\$ 1.38
Block 1 Rate per ccf (0-35 ccf per unit)	\$ 1.24	\$ 1.37	\$ 1.42	\$ 1.42	\$ 1.42	\$ 1.42
Block 2 Rate per ccf (36+ ccf per unit)	\$ 1.20	\$ 1.32	\$ 1.38	\$ 1.38	\$ 1.38	\$ 1.38

Sources: Beaumont-Cherry Valley Water District.

Figure 3-14: Domestic Tier Changes (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 1,871,989	\$ 2,179,882	\$ 2,361,443	\$ 2,420,479	\$ 2,480,991	\$ 2,543,015
Total Base Consumption (ccf)	<u>2,349,818</u>	<u>2,408,564</u>	<u>2,468,778</u>	<u>2,530,497</u>	<u>2,593,760</u>	<u>2,658,604</u>
Rate per ccf	\$ 0.80	\$ 0.91	\$ 0.96	\$ 0.96	\$ 0.96	\$ 0.96
Allocated Share of Peaking Costs	\$ 1,030,549	\$ 1,200,047	\$ 1,299,998	\$ 1,332,498	\$ 1,365,810	\$ 1,399,955
Total Consumption (ccf)	<u>1,174,909</u>	<u>1,204,282</u>	<u>1,234,389</u>	<u>1,265,249</u>	<u>1,296,880</u>	<u>1,329,302</u>
Cost per ccf	\$ 0.88	\$ 1.00	\$ 1.05	\$ 1.05	\$ 1.05	\$ 1.05
Block 1 Rate per ccf (0-44 ccf)	\$ 0.80	\$ 0.91	\$ 0.96	\$ 0.96	\$ 0.96	\$ 0.96
Block 2 Rate per ccf (45+ ccf)	\$ 0.88	\$ 1.00	\$ 1.05	\$ 1.05	\$ 1.05	\$ 1.05

Sources: Beaumont-Cherry Valley Water District.

Figure 3-15: Multi-Family Residential Bi-Monthly Tier Changes (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Allocated Share of Total Base Water Costs	\$ 83,458	\$ 97,184	\$ 105,279	\$ 107,911	\$ 110,608	\$ 113,374
Total Consumption (ccf)	104,760	107,379	110,064	112,816	115,636	118,527
Rate per ccf	\$ 0.80	\$ 0.91	\$ 0.96	\$ 0.96	\$ 0.96	\$ 0.96
Allocated Share of Peaking Costs	\$ 42,757	\$ 49,789	\$ 53,936	\$ 55,284	\$ 56,667	\$ 58,083
Total Consumption (ccf)	52,380	53,690	55,032	56,408	57,818	59,263
Cost per ccf	\$ 0.82	\$ 0.93	\$ 0.98	\$ 0.98	\$ 0.98	\$ 0.98
Block 1 Rate per ccf (0-35 ccf per unit)	\$ 0.80	\$ 0.91	\$ 0.96	\$ 0.96	\$ 0.96	\$ 0.96
Block 2 Rate per ccf (36+ ccf per unit)	\$ 0.82	\$ 0.93	\$ 0.98	\$ 0.98	\$ 0.98	\$ 0.98

Sources: Beaumont-Cherry Valley Water District.

Figure 3-16: Proposed State Project Water and SCE Power Charges

	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<i>PASS THROUGH SURCHARGES</i>						
Electric Power Costs	\$ 1,700,000	\$ 1,768,000	\$ 1,838,720	\$ 1,912,269	\$ 1,988,760	\$ 2,068,310
Total Water Utility Consumption	5,272,155	5,403,959	5,539,057	5,677,534	5,819,472	5,964,959
SCE Power Charge per ccf	\$ 0.32	\$ 0.33	\$ 0.33	\$ 0.34	\$ 0.34	\$ 0.35
State Project Water Costs	\$ 570,600	\$ 593,424	\$ 617,161	\$ 641,847	\$ 667,521	\$ 694,222
Total Water Utility Consumption (ccf)	5,272,155	5,403,959	5,539,057	5,677,534	5,819,472	5,964,959
State Project Water Costs per ccf	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.11	\$ 0.12

Sources: Beaumont-Cherry Valley Water District.

Summary of Water Rate Study

Throughout the process of the water rate study, many renditions and scenarios were considered. Presented below is the culmination of numerous analyses and discussions. Figure 3-17 summarizes the proposed bi-monthly private fire service charges by meter size as designed in this study. Figures 3-18 and 3-19 recap the proposed bi-monthly fixed base charge rate for each rate structure and Figure 3-20 & Figure 3-21 summarizes the variable charges for each rate structure by customer class as designed in this study.

Figure 3-17: Bi-Monthly Private Fire Service Charges

	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Total Annual Fire Service Costs	\$ 95,000	\$ 98,800	\$ 102,752	\$ 106,862	\$ 111,137	\$ 115,582
Number of Equivalent Connections	14,244	14,244	14,244	14,244	14,244	14,244
Charge per equivalent	\$ 6.67	\$ 6.94	\$ 7.21	\$ 7.50	\$ 7.80	\$ 8.11
Bi-Monthly Charge per equivalent	\$ 1.11	\$ 1.16	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35

Meter Size	Demand Factor ¹	Standby Fees - Minimum Bi-Monthly Charge					
1"	1.00	1.11	1.16	1.20	1.25	1.30	1.35
2"	6.19	6.88	7.16	7.44	7.74	8.05	8.37
4"	38.32	42.59	44.30	46.07	47.91	49.83	51.82
6"	111.31	123.73	128.68	133.82	139.18	144.74	150.53
8"	237.21	263.67	274.21	285.18	296.59	308.45	320.79
10"	426.58	474.16	493.13	512.85	533.37	554.70	576.89
12"	689.04	765.90	796.54	828.40	861.54	896.00	931.84

¹ Demand factors based on nominal size of connection raised to the 2.63 power. The demand factors are based on AWWA standards for allocating service costs to public and private fire accounts.

Sources: Beaumont-Cherry Valley Water District; Willdan Financial Services; American Water Works Association (AWWA)

Figure 3-18: Bi-Monthly Fixed Meter Charges (State Project Water Costs & Power Costs Included)

	Current Rates	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<u>BI-MONTHLY METER CHARGE</u>							
Total Meter Related Costs	\$ 1,984,248	\$ 2,563,897	\$ 2,893,058	\$ 3,094,380	\$ 3,171,740	\$ 3,251,033	\$ 3,332,309
Number of Equivalent Meters	27,559	27,559	28,248	28,954	29,678	30,420	31,180
Bi-Monthly Meter Charge per 5/8" Meter	\$ 12.00	\$ 15.51	\$ 17.07	\$ 17.81	\$ 17.81	\$ 17.81	\$ 17.81
Meter Size	Equivalent Meter Factor	Bi-Monthly Meter Charge					
5/8"	1.00	12.00	15.51	17.07	17.81	17.81	17.81
3/4"	1.50	17.25	23.26	25.61	26.72	26.72	26.72
1"	2.50	28.00	38.77	42.68	44.53	44.53	44.53
1 1/2"	5.00	54.00	77.53	85.35	89.06	89.06	89.06
2"	8.00	85.00	124.05	136.56	142.50	142.50	142.50
3"	16.00	159.00	248.10	273.12	284.99	284.99	284.99
4"	25.00	262.00	387.65	426.75	445.30	445.30	445.30
6"	50.00	522.00	775.30	853.50	890.60	890.60	890.60
8"	80.00	834.00	1,240.48	1,365.60	1,424.96	1,424.96	1,424.96
10"	115.00	1,198.00	1,783.19	1,963.05	2,048.38	2,048.38	2,048.38
12"	155.00	2,238.00	2,403.43	2,645.85	2,760.86	2,760.86	2,760.86

Sources: Beaumont-Cherry Valley Water District.

Figure 3-19: Bi-Monthly Fixed Meter Charges(State Project Water Costs & Power Costs Not Included)

	Current Rates	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
<u>BI-MONTHLY METER CHARGE</u>							
Total Meter Related Costs	\$ 1,984,248	\$ 2,480,110	\$ 2,888,022	\$ 3,128,564	\$ 3,206,778	\$ 3,286,947	\$ 3,369,121
Number of Equivalent Meters	27,559	27,559	28,248	28,954	29,678	30,420	31,180
Bi-Monthly Meter Charge per 5/8" Meter	\$ 12.00	\$ 15.00	\$ 17.04	\$ 18.01	\$ 18.01	\$ 18.01	\$ 18.01
Meter							
Size	Equivalent Meter Factor	Bi-Monthly Meter Charge					
5/8"	1.00	12.00	15.00	17.04	18.01	18.01	18.01
3/4"	1.50	17.25	22.50	25.56	27.01	27.01	27.01
1"	2.50	28.00	37.50	42.60	45.02	45.02	45.02
1 1/2"	5.00	54.00	75.00	85.20	90.05	90.05	90.05
2"	8.00	85.00	119.99	136.32	144.07	144.07	144.07
3"	16.00	159.00	239.98	272.64	288.14	288.14	288.14
4"	25.00	262.00	374.98	426.00	450.23	450.23	450.23
6"	50.00	522.00	749.95	852.00	900.45	900.45	900.45
8"	80.00	834.00	1,199.92	1,363.20	1,440.72	1,440.72	1,440.72
10"	115.00	1,198.00	1,724.89	1,959.60	2,071.04	2,071.04	2,071.04
12"	155.00	2,238.00	2,324.85	2,641.20	2,791.40	2,791.40	2,791.40

Sources: Beaumont-Cherry Valley Water District.

Figure 3-20: Proposed Commodity Charges (State Project Water Costs & Power Costs Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic						
Block 1 Rate per ccf (0-44 ccf)	\$ 1.24	\$ 1.37	\$ 1.42	\$ 1.42	\$ 1.42	\$ 1.42
Block 2 Rate per ccf (45+ ccf)	1.29	1.42	1.48	1.48	1.48	1.48
Multi-Family Residential						
Block 1 Rate per ccf (0-35 ccf per unit)	1.24	1.37	1.42	1.42	1.42	1.42
Block 2 Rate per ccf (36+ ccf per unit)	1.20	1.32	1.38	1.38	1.38	1.38
Commercial/Fire Service						
Multiple Commercial	1.26	1.38	1.44	1.44	1.44	1.44
Landscape	1.45	1.60	1.67	1.67	1.67	1.67
Agriculture	1.29	1.42	1.48	1.48	1.48	1.48
Construction	1.46	1.60	1.67	1.67	1.67	1.67

Sources: Beaumont-Cherry Valley Water District.

Figure 3-21: Proposed Commodity Charges (State Project Water Costs & Power Costs Not Included)

Description	CY 2010	CY 2011	CY 2012	CY 2013	CY 2014	CY 2015
Domestic						
Block 1 Rate per ccf (0-44 ccf)	\$ 0.80	\$ 0.91	\$ 0.96	\$ 0.96	\$ 0.96	\$ 0.96
Block 2 Rate per ccf (45+ ccf)	0.88	1.00	1.05	1.05	1.05	1.05
Multi-Family Residential						
Block 1 Rate per ccf (0-35 ccf per unit)	0.80	0.91	0.96	0.96	0.96	0.96
Block 2 Rate per ccf (36+ ccf per unit)	0.82	0.93	0.98	0.98	0.98	0.98
Commercial/Fire Service	0.82	0.94	0.99	0.99	0.99	0.99
Multiple Commercial	0.82	0.94	0.99	0.99	0.99	0.99
Landscape	0.96	1.09	1.15	1.15	1.15	1.15
Agriculture	0.84	0.96	1.01	1.01	1.01	1.01
Construction	0.96	1.09	1.15	1.15	1.15	1.15

Sources: Beaumont-Cherry Valley Water District.

Impact of Revenue Increase

In Calendar Year 2011, the proposed 7% increase in required revenue does not directly correlate to a 7% increase in rates. The cost of service analysis and, in Domestic's case, the restructuring of the consumption blocks dictate the actual adjustments to the rates.

Figure 3-22 details a comparison of the District's existing rates with the proposed domestic rates (rate increase effective January 2011). Based on the District's Master Plan, the average gallons per day (gpd) for a domestic residence is 580 gallons per day. Given the household density of 2.79, this calculates to be a bi-monthly consumption of 44 ccf for an average domestic residence. As revealed in the comparison, those who burden the system the greatest, over 55 ccf, see a larger increase in their bi-monthly bill.

Figure 3-22: Bi-Monthly Comparative Water Bills - Domestic

2011 Proposed Block 1 Consumption Rate per ccf	(0-44 ccf)	\$	0.91
2011 Proposed Block 2 Consumption Rate per ccf	(45+ ccf)	\$	1.00

Bi-Monthly Usage (CCF)	Current Bi-Monthly Meter Rates	Current Rates Consumption Charge	Current Rates Power & State PW Charges	Total Current Charge	Proposed Bi-Monthly Meter Charge	Proposed Block 1 Consumption Charge	Proposed Block 2 Consumption Charge	Proposed Power & State PW Charges	Total Proposed Charge	Increase/ (Decrease)
30	\$ 12.00	\$ 25.20	\$ 14.70	\$ 51.90	\$ 15.00	27.15	\$ -	\$ 12.92	\$ 55.07	\$ 3.17
35	12.00	29.40	17.15	58.55	15.00	31.68	-	15.07	61.75	3.20
44	12.00	36.96	21.56	70.52	15.00	39.82	-	18.95	73.77	3.25
50	12.00	42.00	24.50	78.50	15.00	39.82	5.98	21.53	82.33	3.83
55	12.00	46.20	26.95	85.15	15.00	39.82	10.96	23.69	89.47	4.32
60	12.00	50.40	29.40	91.80	15.00	39.82	15.94	25.84	96.61	4.81

Sources: Beaumont-Cherry Valley Water District.